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U. S. Department of Agriculture



Our New Pot Plant Mum
"Granite State"

Geo. J. Ball
INC.
WEST CHICAGO
ILLINOIS

**BALL MUMS CARNATIONS
BULBS FOR 1947**



NEW! -- for 1947

Geo. J. Ball
 I N C.
 WEST CHICAGO
 ILLINOIS

Never before in the history of Chrysanthemum breeding have greater strides been made in real variety improvement than during the past few years. Not just different colors and new names, but qualities that mean much to growers—harder flowers, stiffer stems and better producers have been the result. Pictured here are five of the newest and finest. (1) Debonair, (2) Brocade, (3) Omega, (4) Sunkist and (5) Red Rust. All are fully described on pages 4 and 5.



Growing Mums

Geo. J. Ball

In clean, fairly well-enriched soil and with stock that is free of insects and disease, nothing will respond more easily and freely than will Mums of any kind. Yet, why the occasional failures, or very ordinary results? We believe much of it is due to not considering Mums as seriously as they deserve. If you plant late with whatever stock you can pick up, chances are you'll get a "catch" crop. Lack of foresight in the matter of young stock gets many Mums off to a bad start. If a cost accounting were applied to most such starts, many would be found close to the red or well into it. Generally speaking, it can pretty safely be said that unless you get off to a favorable start more net might be made by forgetting the Mums and planning well for an early winter crop such as Snaps, Stocks or Peas. Future competition from California will no doubt be felt; but thru stimulating our standard of production, or culture and there's plenty of room to do so, the net result will increase the profit and value of this crop.

SOIL PREFERENCE

Mums do not require any particular type of soil. They will flourish in stiff clayey material if it is opened up with organic matter such as stable manure. Besides the favorable life organic manure introduces, and the fertility it unlocks, the aeration it maintains in heavy soil might be more important in growth than we realize. On the other hand, some of the nicest Mum growth we ever enjoyed was made thru gravel culture. Important point about both is the aeration it promotes and this is a necessary factor in any growth. So it is clearly management of the material we have that counts.

If soil is sandy it calls for organic matter to give it body or something that will anchor the fertility applied, which otherwise would leach away. If old greenhouse soil that has been manured for years is used, chances are that a test of it will indicate plenty of fertility; frequently it is too



"October Pink" the single that doesn't lose its color when shaded. Heavy producer, clear rose pink. That's John Jacobs, West Chicago, Illinois, the grower on the right.

high in nitrates and should be leached, preferably with hot water. If hot water isn't available, cold water will do. The best treatment is steaming followed by cold leaching. Danger of verticillium disease on any preceding Mum crop makes steaming necessary in our opinion.

SOIL pH

Before we knew anything about pH we were sometimes puzzled with the behavior of crops. Today it becomes an easy matter to check on the acidity or alkalinity of our soil, and this should be done not with the thot of keeping the pH at a given point, *but to prevent its getting too far one way or the other.* We have frequently checked the soil of what appeared to be a perfect bed of Mum growth and found it varied little from neutral; but the school boys tell us it should be slightly on the acid side for this crop. When it becomes distinctly alkaline, and most soils tend to become so, an application of sulphur (2 lbs. to 100 sq. ft. of bench) will change it over.

PROPAGATION

This operation starts in the fall with the benching of clean stock plants in clean soil, and preferably raised benches. Reason for such benches; they expose the stock to better light and air; also they dry out better; and they are easier to work on. In the near south we should imagine that the ideal place for propagating stock would be a sash-protected outdoor frame. During open periods of weather they could enjoy full exposure to the air, and during severe weather canvas or straw over the sash could keep out 15-20° of frost. It is the full exposure to the open that gets life and vitality into frame grown stock plants. Thru the depth of northern winter they should be run quite cold and the soil rather dry or not wet enuf to promote growth, idea being to permit the rest they naturally should have. While this treatment is not necessary, it will

Note—See General Index and Alphabetical Index of all varieties on page 33.



build up vitality in the stock, make no mistake about it. As the days lengthen, encourage the stock to wake up thru a little more water and heat, and you should soon be ready to put vigorous cuttings in the sand. In doing so, it is necessary to remove or trim back some foliage to conserve space, but the less removed the better. Also, a propagating bed should be protected from the sun and air currents by the same grade of cloth used for an Aster house. We don't like to lay paper on cuttings, for in closely shutting out air, humidity is greatly increased about them, encouraging rot. As spring temperatures get higher they sometimes rot badly, due to the cuttings' becoming soft. This is checked by exposing the stock plants to all possible air and easing off on water at the roots.

An effort has been made to find advantages in rooting cuttings thru potting them unrooted in light sandy material instead of in the sand of a propagating bed. We do not deny that they can be rooted in such material if the cuttings are at least moderately hard or short jointed. But we find this plan impractical because more space is used in rooting them and there is greater danger of their rotting than when in clean sand. The proponent of this idea even carries it to the point of doing the permanent planting out with unrooted cuttings. The principal advantage claimed for it is that it avoids the check the rooted cuttings receive in being lifted from the sand. In recent years we have become increasingly conscious of the weakening effect on plant growth by disturbance of the roots. This is more of a jar to most plants than might be appreciated. But transplanting a Mum cutting from the sand with roots but a half to an inch long has, practically speaking, no ill-effect worth talking about.

RAISED OR GROUND BEDS

Ground or deep beds are of course more economical than are raised beds or "tables" as some of our veteran friends refer to them. But—if the sub-soil is not naturally well drained thru being gravelly, chances are deep beds will not dry out promptly as they should. This might be particularly so if the greenhouse site is flat or if at all low, in which case the water level during excessive rains might get dangerously close to the surface. It is pretty safe to suggest that if the sub-soil is a clayey one and the greenhouse site is located on such as our level prairies, or inclined to be at all low, which it of course should not be, the cost of two lines of 4 in. drain tile in a 4-5 ft. bed will be a very profitable expenditure. This is so not only for drainage but for steaming the soil; and these tiles have sub-irrigating possibilities and are of some aeration value. However, promoting the prompt drying out of the soil is their principal value. While 3 in. tile is sometimes



Efficient production of Ball Mum Cuttings means better plants.

suggested and is evidently all right, we prefer 4 in. How deep to lay the tile depends some on the depth of good soil in the bed. We use 6 in. siding for ground beds and get the tile down 12 in. below top of siding. We find this arrangement works out very well for steam sterilizing and sub-irrigating of such deep rooting crops as Peas, but we do not use this irrigating plan for Mums because of their shallower rooting habit. Six inch deep raised beds are of course the safest because of the 100% drainage. They are also indispensable for most bedding and pot plant growing; but for cut flowers generally, and that includes Mums, the well-drained deep bed is not only less costly to build and maintain, but top results can be had with them if lower soil moisture is watched carefully.

PLANTING

Some vital phases of Mum growing come under this heading. Most important one concerns the condition of the young stock when planted. We feel that it is a mistake to use early propagated stock, regardless of how it is handled. If it is planted in open soil, topped and later planted over, as it is ordinarily done, it usually gets a check that frequently brings the growth to more or less of a standstill after planting. The same thing happens if they are potted and become pot-bound. Two to three weeks in a 2¼ in. pot will be all right, but—most experienced growers know how easy it is to underestimate the time needed to clean out the preceding crop and get ready to plant. We have heard growers dispute this point, but we know thru frequent comparative plantings that when early propagated stock is put out alongside rooted cuttings right out of the sand, the result is usually and clearly in favor of the unchecked cuttings. If not left in the open soil over



BETTER MUMS FOR FLORISTS



Gro. J. Ball
INC.



Many varieties of Pompons as well as large Mums are well suited for pot plant use. Not at all difficult to grow either.

about a month and planted from it carefully, or if not in small pots over 3 or 4 weeks, they have a chance of coming along unchecked; but we'll take our chance on the rooted cuttings for another reason: Handling and space the early propagation requires adds substantially to costs.

But the crux of this proposition is to have enuf cuttings to put in the sand about 3 weeks before the beds are ready to plant. In fact, putting in the cuttings should be considered as the first operation in planting. Topping quite early rooted stock of scarce or valuable varieties will increase available stock when wanted. Also timely topping of stock plant growth will help. Also in topping go down deep enuf to get a cutting and root it to make stock plants for later cutting. It should be easy to spread the planting time over a month or 6 weeks, and that should help considerably in having cuttings when wanted.

Planting out cuttings direct should be done by someone who can pick out the weakest and such should be planted in the outside rows. Also, we plant a few extra ones in the bed as possible replacements. After the first good watering, the development of new roots is encouraged by letting the soil become fairly dry before again watering.

SHORT STEMMED POMPONS

Every season some short stemmed pompons are met with in any market, and this considerably reduces their value compared with stock on 3-4 ft. stems. Usually this fault is not due to late planting but to the fact that they just didn't dig in and grow from the start as they should have. To add water and fertility to such a condition without knowing what is in the soil will usually make matters

worse. By holding them somewhat on the dry side, white roots will develop and push them out of this condition, but the delayed action will count against them. But it is of more importance to realize that it is usually due to a check to growth in the early stages. By using rooted cuttings in clean open soil and not starting them off in overwet soil, there's no reason that we can think of for their not growing freely.

SPACING

This question is a rather vital one for commercial growers, for it does bear on the net results. We sometimes get the impression that there is a tendency to over space, but this may be due to lack of possible growth or late planting. These factors make it difficult to make definite suggestions. However, with big standard Mums planted in June or early July, 8 x 8 in. with 2 flowers per plant is standard commercial practice. With a 4 ft. raised bed this might be closed up some, say 7 x 8. This spacing with one flower to a plant will of course produce some larger flowers, but they will not return as much as will the two smaller flowers per plant with the same spacing. For most retail growers the net will be still higher if at least part of the planting carried 4-5 flowers per plant, using the same 8 x 8 spacing. In England the tendency is almost exclusively toward smaller flowers and more of them. They are largely grown there outdoors during the summer in what appears to be 10 in. pots with from 12-16 flowers per plant. In the Paris market the bigger they are the better they like them, so better make it some of each size. Pompons we like to space 6 x 7, or for strong growers planted early 6 x 8 in. Top half way down at a height of 8 in. and carry up about three stems: no further topping is necessary. As already stated, if side growths are trimmed out once from about the base, this plan makes for longer stems because there is no waste of the plant's energy in making brushy blind growth.

WATERING

This is probably the most important factor in the profitable culture of any crop. There is just one way to determine whether or not water should be supplied and that is to dig down 6 or 8 in. in deep beds and examine the soil. If it is wet enuf to ball up in the hand, chances are it should be let alone. While this comes close to being a hard and fast rule, we must also consider the strength and health of growth. A raised bed in the fall filled with roots and strong heavy growth can hardly be overwatered. On the other hand, with temperatures in the 90's growth is not nearly so active as during cool fall weather and water

(continued on page 13)



GRANITE STATE

We can't imagine how it would be possible to produce a more perfect pot Mum than our Granite State released by us last season. Naturally compact, snow white ball shaped hard, semi-incurved flowers—all the attributes of perfection. Natural flowering season late October. We expect to be able the coming season to supply the demand in full. PRICES ROOTED CUTTINGS — \$90.00 per 1000

Four Winners



PINOCCHIO

A hard glistening snow white pompon. Perfection for cloth house shading to flower late August thru September. Flowers naturally late October. The tightly packed quilled petals of the small hard flowers are a pleasure to see and handle. Taller than Irene and should completely replace it. Perfection for early flowering.

PRICES ROOTED CUTTINGS — \$90.00 per 1000



CAROLINE YOSICK (Shelby Floral)

A small, decorative, *lavender pink pompon* that flowers naturally October 20. Caroline Yosick gives a sharp and uniform response to black cloth shade and its major value is for August and September flowering. It compliments and completes an important trio for early shading—Caroline Yosick, Pinocchio, and Gold Coast. It has a very dependable growth habit, does not crown like Jewell, and has a much more rigid stem than Jessie and Pink Dot. The small, decorative flower of Caroline Yosick possesses excellent color-holding quality, and is very satisfactory under even the earliest shadings. Its color is not outstanding in natural daylight but brightens or softens remarkably under artificial lights.

PRICES ROOTED CUTTINGS — \$90.00 per 1000



GOLD COAST (Baur-Steinkamp)

A small deep *lemon yellow pompon* blooming normally October 25. It lends itself ideally to early shading. Its clean, vigorous free growth habit is outstanding. In growth habit and production, it is very similar to Pinocchio. It compliments and completes an important trio for early shading. . . Gold Coast, Pinocchio and Caroline Yosick. The flower is small and firm; the color is intense. Easily grown and consistently dependable—a top notch cloth house variety. We recommend Gold Coast as the best yellow pompon for early shading.

PRICES ROOTED CUTTINGS — \$70.00 per 1000

Novelties for 1947

DARK PINK ORCHID QUEEN (Delworth)

An intense *mauve pink* sport from Orchid Queen with the added attributes of increased vigor in both plant and flower. The importance of its value over its parent for early shading has been proven by extensive tests. The color is much deeper. The flower is larger and more fully rounded. The foliage, stem and height of the plant are larger and stronger than the original. Dark Pink Orchid Queen takes its place in list of good standards.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000

BROCADE (Yoder Bros.)

A lively cameo *pink daisy* that blooms naturally with Masterpiece, November 15. The variety is of extremely easy culture. Its free, vigorous growth makes for top production. It is medium to tall in height, and the strong stems develop big, well branched sprays. The response of Brocade to shading is similar to that of Masterpiece and should be grouped with that variety in the shading program. Brocade is the pink daisy to compliment Masterpiece in later shadings and natural flowering. For a mid-season pink single to fill the gap between the early pink singles, Oct. Pink and W. H. Buckingham.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000

SUNKIST (Yoder Bros.)

An intense *golden yellow* single that flowers normally with Vibrant December 20, for the Christmas season.

The variety lends itself to wide variations in culture and dependably produces a profitable crop. Like Vibrant, Yukon, and Rosalind it is well suited to late planting and ground bed culture. In preliminary trials it has responded very satisfactorily when lighted for delayed flowering. Easily grown and readily sold, Sunkist fills a real demand for golden Christmas daisies.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000

RED RUST (Depetris)

An exquisitely colored, well rounded, large pompon blooming November 5. The color is a beautiful blend of *orange, red* and *chrome bronze* similar to Natoma. The habit of growth is clean, uniform, and vigorous with excellent foliage and well branched sprays. The scintillating color is an epoch in chrysanthemum breeding but it is sensitive to intense light and is, therefore, best adapted to later greenhouse shadings and natural flowering. It possesses greater vigor and is easier to grow than Natoma. The production excels that of Navaho. In its natural season Red Rust should become a very important variety in creating greater consumer appeal.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000



LAKME (Depetris)

A glistening *small white pompon* that matures normally November 12. It possesses a hard, durable, formal flower that easily satisfies the most critical demands for keeping and shipping quality. Its trim, smart appearance is enhanced by a chartreuse eye. The habit of growth is free, wiry and the dark, rigid stems develop a very productive compound spray. In growth habit and cultural requirements it very closely resembles the variety Cassandra. Its black cloth response is rapid and just nicely follows Pinocchio in the shading program. It lends itself well to out-of-season flowering and has been outstanding in the Cornell trials. High, uniform producer.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000

DEBONAIR (Yoder Bros.)

A rich *crimson red* decorative pompon that blooms normally December 5. The beauty and symmetry of its form combined with the velvety gloss of its rich and intense color has never failed to create enthusiastic comment. Shaded to flower for the 1945 National Chrysanthemum Show in Cleveland it took top honors in seedling competition. Moderate temperatures, optimum light intensity and other environmental conditions which promote a firm wood and gradual elongation of stem and spray best suit this variety. Debonair can be lighted for the Christmas Season. The growth is vigorous, and healthy.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000

OMEGA (Yoder Bros.)

A deep *lemon yellow pompon* maturing December 10, just nicely following Sunnyside. Omega combines an exceptionally strong, vigorous habit and beautiful dark, glossy foliage with a rigid, wiry spray. The formal flower possesses unusual substance and keeping quality. No blindness has ever been apparent and tests indicate a very high degree of resistance to Verticillium. Omega in its natural season compliments Sunnyside by extending the season of top quality yellow pompons. It is equally valuable on raised benches or ground beds. On the latter with late planting and lights it is easily had for Christmas. It has been successfully lighted into February flowering.

PRICES ON ROOTED CUTTINGS—\$90.00 per 1000



Large Flowering Commercial Varieties

S—Indicates varieties we find most suitable for shading.
P—Indicates varieties suitable for Pot Plants.

Note carefully instructions for ordering on page 32. No orders for less than 50 rooted cuttings of a variety accepted. Your total order must be for not less than 500 rooted cuttings.

The minimum number of cuttings of a variety that can be supplied in unrooted cuttings is 250. Price on unrooted cuttings will be \$12.50 per 1000 less than for rooted cuttings.

YELLOW

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
P GOLD LODGE. Light golden yellow.....	Int. Reflexed	July 4	Oct. 5	\$40.00
GOLDEN OCTOBER. Deep lemon yellow.....	Int. Semi-Inc.	July 8	Oct. 15	40.00
P CELESTRA. Lemon yellow	S. Incurved	July 8	Oct. 15	40.00
SP MRS. H. E. KIDDER. Deep lemon yellow.....	L. Incurved	July 12	Oct. 20	40.00
YELLOW AMBASSADOR. Light lemon yellow....	L. Incurved	July 12	Oct. 23	40.00
SP BLAZING GOLD. Deep golden yellow.....	Int. Incurved	July 12	Oct. 25	40.00
S SUNGLOW. Golden yellow	L. Incurved	July 12	Oct. 25	40.00
CITRONELLA. Light buff yellow	Int. Incurved	July 16	Oct. 28	40.00
SP GOLDEN GLORY. Golden yellow	Int. Semi-Inc.	July 16	Nov. 1	40.00
S GOOD NEWS. Deep lemon yellow	Int. Incurved	July 16	Nov. 1	40.00
YELLOW TURNER. Light yellow	L. Incurved	July 19	Nov. 5	40.00
S INDIANAPOLIS YELLOW. Lemon yellow	Int. Incurved	July 19	Nov. 8	40.00
P CARDONIA. Deep golden yellow	Int. Incurved	July 19	Nov. 10	40.00
SP PENROD. Golden yellow	Int. Incurved	July 19	Nov. 10	40.00
WHITTIER. Lemon yellow	L. Incurved	July 19	Nov. 10	40.00
YELLOW MONUMENT. Light lemon yellow	L. Incurved	July 22	Nov. 15	40.00
S YELLOW MEFO. Lemon yellow	L. Incurved	July 25	Nov. 20	40.00
SP BONNAFFON DELUXE. Golden yellow	S. Incurved	July 25	Nov. 20	40.00
P FRIENDLY RIVAL. Deep chrome yellow	L. Incurved	July 25	Nov. 23	40.00
MARIE DEPETRIS. Deep golden yellow	L. Incurved	July 25	Nov. 23	40.00
HARVESTER. Deep canary yellow	L. Incurved	July 28	Nov. 25	90.00
P SUNGOLD. Lemon yellow	Int. Semi-Inc.	July 28	Nov. 25	40.00
S GOLDEN PEARSON. Light golden yellow	Int. Incurved	July 28	Nov. 25	40.00
IMPROVED YELLOW CHATTANOOGA	L. Incurved	July 28	Nov. 25	40.00
GOLDEN MRS. ROSS. Golden yellow	L. Incurved	July 31	Dec. 3	40.00
GOLDEN MISTLETOE. Light golden yellow.....	L. Incurved	Aug. 2	Dec. 10	40.00
METEORE. Lemon Yellow	Int. Semi-Inc.	Aug. 2	Dec. 10	70.00
P IMPROVED TOBIN'S LATE YELLOW	Int. Semi-Inc.	Aug. 4	Dec. 15	40.00

WHITE

SMITH'S EARLY WHITE	Int. Semi-Inc.	July 4	Oct. 5	40.00
QUAKER MAID. White tinged pink	Int. Reflexed	July 8	Oct. 15	40.00
S SILVER SHEEN.	Int. Incurved	July 12	Oct. 20	40.00
SP CHRISTINA.	S. Incurved	July 12	Oct. 20	40.00
AMBASSADOR. Cream white	L. Incurved	July 12	Oct. 23	40.00
S ALBATROSS.	L. Incurved	July 16	Nov. 1	40.00
SP SNOW WHITE.	Int. Incurved	July 16	Nov. 1	40.00
S BETSY ROSS. Ivory white	L. Incurved	July 16	Nov. 1	40.00
WILLIAM TURNER. White	L. Incurved	July 19	Nov. 5	40.00
S INDIANAPOLIS WHITE.	Int. Incurved	July 19	Nov. 8	40.00
JEAN ELIZABETH.		July 19	Nov. 10	40.00
MONUMENT. Ivory white	L. Incurved	July 22	Nov. 15	40.00
SP MARKETEER.	Int. Semi-Inc.	July 25	Nov. 18	40.00
S MEFO. Ivory white	L. Incurved	July 25	Nov. 20	40.00
P WHITE FRICK. White suffused pink	Int. Incurved	July 28	Nov. 25	40.00



Large Flowering Commercial Varieties

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
CHATTANOOGA.	L. Incurved	July 28	Nov. 25	40.00
DECEMBER GLORY LARGE. Ivory white	Int. Incurved	July 31	Dec. 1	40.00
DECEMBER WHITE.	Int. Incurved	July 31	Dec. 5	70.00
IMPROVED DECEMBER BEAUTY	L. Incurved	Aug. 2	Dec. 8	40.00
P MARGARET MOELLER. White	L. Incurved	Aug. 2	Dec. 8	90.00
WHITE MISTLETOE.	Int. Incurved	Aug. 2	Dec. 10	40.00
P SMITH'S LATE WHITE. Ivory white	Int. Semi-Inc.	Aug. 4	Dec. 15	40.00

BRONZE AND RED

S INDIANOLA. Light reddish bronze	Int. Semi-Inc.	July 8	Oct. 15	40.00
S HILDA BERGEN. Dark reddish bronze	S. Incurved	July 12	Oct. 25	40.00
P ALAMEDA. Reddish bronze	Int. Incurved	July 12	Oct. 25	40.00
SP GLITTERS. Deep reddish orange	Int. Reflexed	July 16	Oct. 28	40.00
P IVANHOE. Reddish bronze	S. Incurved	July 16	Nov. 1	90.00
SP APRICOT QUEEN. Orange bronze	Int. Incurved	July 16	Nov. 1	40.00
S DETROIT NEWS. Reddish bronze	Int. Incurved	July 16	Nov. 1	40.00
S INDIANAPOLIS BRONZE. Buff bronze	Int. Incurved	July 19	Nov. 8	40.00
BRONZE ORCHID QUEEN. Apricot buff	L. Incurved	July 19	Nov. 10	40.00
S ANACONDA. Deep coppery red	Int. Incurved	July 22	Nov. 15	50.00
S MRS. DAVID F. ROY. Crimson	Int. Incurved	July 22	Nov. 15	40.00
GARNET KING. Dark red	Int. Reflexed	July 25	Nov. 18	40.00
GLADYS PEARSON. Light buff bronze	Int. Incurved	July 28	Nov. 25	40.00
OAK LEAF. Reddish bronze	Int. Incurved	July 28	Nov. 25	40.00
P BRONZE FRICK. Light bronze	Int. Incurved	July 28	Nov. 25	40.00
BRONZE MISTLETOE. Buff bronze	Int. Incurved	Aug. 2	Dec. 10	40.00

PINK

P EARLY OCTOBER. Light lavender	S. Semi-Inc.	July 4	Oct. 10	70.00
S PINK CHIEF. Lavender	Int. Incurved	July 8	Oct. 15	40.00
SP JUSTRITE. Light rose pink	S. Incurved	July 8	Oct. 15	40.00
MAJOR ED. BOWES. Deep lavender	Int. Incurved	July 12	Oct. 20	40.00
OCTOBER ROSE. Light lavender	Int. Incurved	July 12	Oct. 20	40.00
PINK TURNER. Lavender	L. Incurved	July 19	Nov. 5	40.00
SP J. W. PRINCE. Rose pink	Int. Incurved	July 19	Nov. 5	40.00
S INDIANAPOLIS PINK. Deep lavender	Int. Incurved	July 19	Nov. 8	40.00
S DARK PINK ORCHID QUEEN. Mauve pink	L. Incurved	July 19	Nov. 10	90.00
S ORCHID QUEEN. Orchid pink	L. Incurved	July 19	Nov. 10	40.00
THANKSGIVING PINK. Amaranth	Int. Reflexed	July 25	Nov. 23	40.00
P HELEN FRICK. Rose pink	Int. Incurved	July 28	Nov. 23	40.00
EDWIN SEIDEWITZ. Lavender	Int. Incurved	July 28	Nov. 25	40.00
PINK MISTLETOE. Lavender	Int. Incurved	Aug. 2	Dec. 10	40.00

DEPENDABLE SUPPLIERS

Every grower knows from experience that the very nature of the business of propagating and shipping cuttings involves some uncertainties. This is particularly true of those selling their surplus or whose facilities are not extensive. The very active demand of the war years has made this more or less true with all propagators due to the labor situation. Unfortunately, it has not been possible to greatly improve this situation the past season; but we have reasons to believe that it will be

bettered substantially the coming year. However the uncertainty of demand for varieties will always leave it impossible to unfailingly fill all orders 100%. Our propagators are the largest and best equipped to supply rooted Mum cuttings; but it must be admitted that orders placed early stand the best possible chance of being completely cared for. Should you unexpectedly require more late in the season, we will do our utmost to take the best possible care of you.



Pompons Singles and Anemones

Types are abbreviated as follows: Pom.—Pompon; Dec.—Decorative; Sgl.—Single; Anem.—Anemone. Size of flower is indicated by S.—Small; Int.—Intermediate; L.—Large.

S—Indicates varieties we find most suitable for shading.

P—Indicates varieties suitable for Pot Plants.

D—Indicates varieties suitable for growing as disbudded pompons.

H—Hardy or garden types.

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YELLOW

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
H BARBARA CUMMING. Buff yellow.....	Med., Int. Dec.	June 20	Sept. 15	\$40.00
H EARLY YELLOW. Light golden yellow.....	Short, S. Pom.	June 20	Sept. 15	40.00
H MORNING STAR. Primrose yellow	Int. Dec.	June 20	Sept. 20	90.00
H POMPONETTE. Light buff yellow	Med., Int. Pom.	June 20	Sept. 20	40.00
H KING MIDAS. Light lemon yellow.....	Med., Int. Dec.	June 30	Sept. 30	40.00
H JUDITH ANDERSON. Golden yellow.....	Med., S. Pom.	July 8	Oct. 15	40.00
SH YELLOW IRENE. Light lemon yellow.....	Short, S. Pom.	July 8	Oct. 15	40.00
SH RODELL IMPROVED. Light lemon yellow.....	Short, Int. Pom.	July 8	Oct. 20	40.00
S YELLOW HAMMER. Golden yellow	Med., Int. Pom.	July 8	Oct. 20	40.00
SD CINCINNATI. Golden yellow	L. Pom.	July 8	Oct. 20	40.00
S GOLDEN SPRAY. Deep lemon yellow.....	Med., Int. Pom.	July 12	Oct. 23	40.00
S GOLD COAST. Deep lemon yellow.....	Small Pom.	July 12	Oct. 25	70.00
SD GOLDEN HERALD. Deep golden yellow.....	Med., L. Dec.	July 12	Oct. 25	40.00
S YELLOW DOT. Yellow, bronze center.....	Med., Int. Pom.	July 12	Oct. 25	40.00
S YELLOW ARCADIA. Pernet yellow	Med., Int. Pom.	July 16	Oct. 28	40.00
S YELLOW DAISY. Deep lemon yellow.....	Med., Int. Sgl.	July 16	Nov. 1	40.00
SD MARY LENNON HALL. Lemon yellow.....	Tall, Int. Pom.	July 16	Nov. 1	40.00
D YELLOW SEA GULL. Light lemon yellow.....	Tall, Int. Pom.	July 16	Nov. 1	40.00
BARCAROLE. Golden yellow	Int. Pom.	July 19	Nov. 5	90.00
S NUGGETS. Light lemon yellow	Short, S. Pom.	July 19	Nov. 5	40.00
S YELLOW BUSHNELL. Pernet Yellow	Tall, Int. Pom.	July 19	Nov. 8	40.00
PIXIE. Deep golden yellow	Med., S. Pom.	July 19	Nov. 10	50.00
DERIGOLD. Deep golden yellow.....	Med., Int. Pom.	July 19	Nov. 10	40.00
SPD YELLOW BEAUTY. Golden yellow.....	L. Pom.	July 19	Nov. 10	40.00
SD HELIOS. Deep golden yellow.....	Med., L. Anem.	July 19	Nov. 10	40.00
S PRINCETON. Orange yellow	Med., Int. Dec.	July 22	Nov. 15	40.00
SD YELLOW FELLOW. Deep lemon yellow.....	Med., Int. Dec.	July 22	Nov. 15	40.00
P SUNRAY. Light lemon yellow	Med., Int. Anem.	July 22	Nov. 15	40.00
SD YELLOW FREIDA. Lemon yellow	L. Sgl.	July 22	Nov. 15	50.00
SD SUSANNE MILLER. Buff yellow	Tall, L. Anem.	July 25	Nov. 18	40.00
GOLDEN SURPRISE. Sulphur yellow	Med., Int. Pom.	July 25	Nov. 18	50.00
GOLDEN EMBLEM. Golden yellow	Int. Pom.	July 25	Nov. 23	90.00
HASEGAWA GOLD. Light golden yellow.....	Med., Int. Pom.	July 25	Nov. 23	40.00
D YELLOW ROLINDA. Light buff yellow.....	Med., Int. Anem.	July 25	Nov. 23	40.00
SUNNYSIDE. Golden yellow	Med., Int. Pom.	July 28	Nov. 25	50.00
LODESTAR. Golden yellow	Med., Int. Sgl.	July 28	Nov. 25	70.00
D GOLDSMITH. Golden yellow	Med., Int. Dec.	July 28	Nov. 25	40.00
D GOLDEN JANE. Brilliant golden yellow.....	Med., L. Sgl.	July 28	Nov. 28	50.00
P YELLOW CORDOVA. Lemon yellow.....	Med., Int. Dec.	July 28	Nov. 30	40.00
D GLEAM. Deep lemon yellow.....	L. Anem.	July 31	Dec. 5	40.00
YELLOW CAMEO. Deep lemon yellow.....	Int. Pom.	July 31	Dec. 5	90.00
OMEGA. Lemon yellow	Int. Pom.	Aug. 2	Dec. 10	90.00
D YELLOW SUPREME. Buff yellow	Med., L. Anem.	Aug. 2	Dec. 10	40.00

*Pompons Singles and Anemones*

YELLOW—(Continued)

<i>Name and Description</i>	<i>Size & Type</i>	<i>Pinching Date</i>	<i>Matures</i>	<i>Price per 1000</i>
DECEMBER GOLD. Deep golden yellow.....	Med., Int. Dec.	Aug. 4	Dec. 15	40.00
YELLOW GARZA SUPREME. Lemon yellow.....	Short, Int. Anem.	Aug. 7	Dec. 15	40.00
SUNKIST. Golden yellow	Int. Sgl.	Aug. 7	Dec. 20	90.00
VIBRANT. Deep lemon yellow	Med., Int. Dec.	Aug. 7	Dec. 20	40.00
YELLOW SNOW. Deep lemon yellow.....	Med., Int. Pom.	Aug. 7	Dec. 30	40.00
IVORY SNOW. Ivory yellow.....	Int. Pom.	Aug. 7	Dec. 30	70.00

WHITE

H SILVER MOON. Cream white	Med., Int. Sgl.	June 20	Sept. 15	40.00
H JEAN CUMMING. Ivory white.....	Med., Int. Dec.	June 20	Sept. 20	40.00
NORTH STAR. White	Sgl.	June 25	Sept. 25	90.00
AVALANCHE	Int. Dec.	July 4	Oct. 5	50.00
H UVALDA. Cream white	Med., Int. Pom.	July 4	Oct. 10	40.00
SP WHITE JEWELL	Short, S. Pom.	July 8	Oct. 15	40.00
SDH SILVER BALL	Med., L. Pom.	July 8	Oct. 15	40.00
SH IRENE	Short, S. Pom.	July 8	Oct. 15	40.00
S MINONG	Med., S. Pom.	July 12	Oct. 20	40.00
PINOCCHIO	S. Pom.	July 12	Oct. 25	90.00
P GRANITE STATE	L. Pom.	July 12	Oct. 25	90.00
S ARCADIA	Med., Int. Pom.	July 16	Oct. 28	40.00
SD SEA GULL. Cream white	Tall, Int. Pom.	July 16	Nov. 1	40.00
SD WHITE DOTY. Ivory white	Med., L. Pom.	July 16	Nov. 1	40.00
S BLANCHE	Med., Int. Anem.	July 16	Nov. 1	40.00
D WHITE IZOLA	S. Anem.	July 16	Nov. 1	40.00
D WHITE ANEMONE	Tall, Int. Anem.	July 19	Nov. 5	40.00
S REV. HORACE BUSHNELL. Cream white.....	Tall, Int. Pom.	July 19	Nov. 8	40.00
SD SHASTA	Med., Int. Anem.	July 19	Nov. 8	40.00
S CRYSTAL JEWELL	Tall, S. Pom.	July 19	Nov. 8	40.00
VESPER	Int. Pom.	July 19	Nov. 10	50.00
SD WHITE MENSA. Ivory white	Med., Int. Sgl.	July 19	Nov. 10	40.00
SPD LITTLE AMERICA	Med., Int. Anem.	July 19	Nov. 10	40.00
SPD RICHARD MANDEL	L. Pom.	July 19	Nov. 10	40.00
S LAKME	S. Pom.	July 22	Nov. 12	90.00
CHICAGO PEARL. Ivory white	Med., Int. Pom.	July 22	Nov. 15	40.00
SD WHITE FREIDA. Yellow cushion	Med., L. Anem.	July 22	Nov. 15	40.00
D WHITE NORMA. White suffused with pink.....	Tall, L. Anem.	July 25	Nov. 18	40.00
MATCHLESS. White	Int. Pom.	July 28	Nov. 20	90.00
D LONG ISLAND BEAUTY. White, yellow cushion...	Med., L. Anem.	July 25	Nov. 20	40.00
D NEVADA. White, green cushion	Med., Int. Anem.	July 25	Nov. 20	70.00
PEARL	Tall, Int. Pom.	July 25	Nov. 20	40.00
SEAFOAM	Med., Int. Pom.	July 25	Nov. 20	50.00
PRISCILLA	Int. Pom.	July 28	Nov. 23	70.00
PD WHITE YULETIDE	Short, Int. Pom.	July 28	Nov. 28	40.00
P CORDOVA. Cream white	Med., Int. Dec.	July 28	Nov. 30	40.00
ROYAL QUEEN	Med., Int. Pom.	July 31	Dec. 5	40.00
CAMEO. Ivory white	Med., Int. Pom.	July 31	Dec. 5	40.00
YUKON	Tall, Int. Sgl.	Aug. 2	Dec. 10	40.00
D WHITE SUPREME	Med., L. Anem.	Aug. 2	Dec. 10	40.00
DECEMBER GLORY POMPON. Ivory white.....	Med., Int. Dec.	Aug. 4	Dec. 15	40.00
GARZA SUPREME	Short, Int. Anem.	Aug. 7	Dec. 15	40.00
SNOW. Ivory white	Med., Int. Pom.	Aug. 7	Dec. 30	40.00
REVELATION	Med., Int. Pom.	Aug. 10	Dec. 30	50.00



Pompons Singles and Anemones

BRONZE AND RED

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
H EARLY BRONZE. Orange bronze	Short, S. Pom.	June 20	Sept. 15	40.00
H NANCY COPELAND. Spectrum red	Int. Sgl.	June 25	Sept. 25	40.00
BURGUNDY. Wine red	Med., Int. Dec.	July 4	Oct. 5	40.00
RUBY POMPON. Ruby crimson	Int. Pom.	July 4	Oct. 5	70.00
H CALIPH. Deep red	Med., Int. Dec.	July 4	Oct. 8	40.00
RED VELVET. Velvety crimson	Int. Dec.	July 4	Oct. 8	70.00
H AVIATOR. Coppery red	Int. Dec.	July 4	Oct. 10	90.00
INDIAN SUMMER. Orange bronze	Med., Int. Dec.	July 8	Oct. 15	40.00
ROMAN BRONZE	Tall, Int. Pom.	July 12	Oct. 20	40.00
S ADELAIDE. Dark reddish bronze	Med., S. Pom.	July 12	Oct. 23	40.00
SD JEMIMA. Dark reddish bronze	Med., Int. Pom.	July 12	Oct. 23	40.00
H NATOMA. Flame scarlet	Short, Int. Dec.	July 12	Oct. 25	40.00
S FIRE BIRD. Dark reddish bronze	Med., Int. Dec.	July 12	Oct. 25	40.00
OCTOBER BRONZE. Light bronze	Med., Int. Sgl.	July 16	Oct. 28	40.00
BRONZE DAISY. Light bronze	Med., Int. Sgl.	July 16	Nov. 1	40.00
D BRONZE IZOLA. Reddish bronze	Sgl. Anemone	July 16	Nov. 1	40.00
D RED IZOLA. Deep red	Small Anemone	July 16	Nov. 1	40.00
BRONZE BUCKINGHAM. Light orange bronze....	Short, Int. Sgl.	July 16	Nov. 3	40.00
CASSANDRA. Orange bronze	Med., Int. Pom.	July 19	Nov. 5	50.00
S ROBIN HOOD. Dark red	Med., S. Pom.	July 19	Nov. 5	40.00
NAVAHO. Deep crimson	Med., Int. Pom.	July 19	Nov. 5	50.00
S RED RUST. Reddish bronze	Large Pompon	July 19	Nov. 5	90.00
S RED DAISY. Deep red	Med., Int. Sgl.	July 19	Nov. 5	40.00
BITTERSWEET. Bittersweet red	Int. Sgl.	July 19	Nov. 8	90.00
BRONZE BULKELEY	Tall, Int. Pom.	July 19	Nov. 8	40.00
SYLVANNA. Orange bronze	Med., Int. Sgl.	July 19	Nov. 10	70.00
SD EUROPA. Cardinal red	Short, L. Sgl.	July 19	Nov. 10	40.00
D THE TITAN. Scarlet crimson	Med., L. Anem.	July 19	Nov. 10	40.00
PD RED MELBA. Light red	Short, L. Sgl.	July 19	Nov. 10	40.00
S NEW YORK. Reddish bronze	Med., S. Pom.	July 22	Nov. 13	40.00
SD BRONZE MASTERPIECE. Rosewood bronze	Med., Int. Pom.	July 22	Nov. 15	40.00
S RED PRINCETON. Brazil red	Med., Int. Dec.	July 22	Nov. 15	40.00
P GYPSY. Light reddish bronze	S. Anem.	July 22	Nov. 15	40.00
RUSTICON. Rust red	Int. Pom.	July 25	Nov. 20	90.00
CATHERINE. Light reddish bronze	Med., Int. Dec.	July 25	Nov. 20	40.00
LEGAL TENDER. Bronze and gold	Med., Int. Dec.	July 25	Nov. 20	40.00
PD RED ROLINDA. Deep reddish bronze	Med., Int. Anem.	July 25	Nov. 23	40.00
D BRONZE GOLDSMITH. Mars orange	Med., Int. Dec.	July 28	Nov. 25	70.00
DOROTHY TURNER. Deep reddish bronze	Med., Int. Pom.	July 28	Nov. 25	40.00
YOLANDA. Light orange bronze	Med., S. Anem.	July 28	Nov. 25	40.00
ARGO. Orange bronze	Short, Int. Pom.	July 28	Nov. 28	70.00
D JANE. Light buff bronze	Med., L. Sgl.	July 28	Nov. 28	40.00
D APRICOT VALENCIA	Med., L. Sgl.	July 28	Nov. 28	50.00
D CARNELIA. Bittersweet red	Short, L. Sgl.	July 28	Nov. 28	40.00
ROYAL CRIMSON. Dark crimson	Med., L. Dec.	July 31	Dec. 1	40.00
VIKING. Deep reddish bronze	Med., Int. Sgl.	July 31	Dec. 1	40.00
CAVALCADE. Mandarin red	Med., Int. Pom.	Aug. 2	Dec. 10	40.00
D BRONZE SUPREME. Light bronze	Med., L. Anem.	Aug. 2	Dec. 10	40.00
S DEBONAIR. Crimson red	Large Pom.	Aug. 2	Dec. 10	90.00
SARONG. Crimson scarlet	Med., Int. Sgl.	Aug. 4	Dec. 15	40.00

PINK

H EARLY WONDER. Lavender	Med., Int. Dec.	June 20	Sept. 15	40.00
H MORNING GLOW. Mauve pink	S. Dec.	June 25	Sept. 25	90.00



Pompons Singles and Anemones

PINK—(Continued)

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
H JEAN TREADWAY. Light rose pink.....	Med., Int. Dec.	June 30	Oct. 1	40.00
H MRS. DUPONT. Peach pink	Med., Int. Dec.	July 4	Oct. 5	50.00
H LAVENDER LADY. Lavender	Med., Int. Dec.	July 4	Oct. 8	50.00
H ALLEGRO. Shrimp pink	Int. Dec.	July 8	Oct. 15	90.00
S JEWELL. Lavender	Med., S. Pom.	July 8	Oct. 15	40.00
DARK PINK JEWELL. Deep lavender.....	Med., S. Pom.	July 8	Oct. 15	40.00
S PINK PEARL. Rose pink	Med., S. Pom.	July 8	Oct. 20	40.00
S CAROLYN YOSICK. Lavender pink	S. Dec.	July 8	Oct. 20	90.00
S CAPT. COOK. Deep rose pink.....	Tall, Int. Pom.	July 12	Oct. 23	40.00
S JESSIE. Light lavender	Med., Int. Pom.	July 12	Oct. 25	40.00
S PINK DOT. Light pink	Med., Int. Pom.	July 12	Oct. 25	40.00
S OCTOBER PINK. Light lavender	Med., Int. Sgl.	July 16	Oct. 28	40.00
S ISOBEL. Light lavender	Small Pom.	July 16	Nov. 1	40.00
SD LILLIAN DOTY. Light rose pink.....	Med., L. Pom.	July 16	Nov. 1	40.00
D PINK IZOLA. Lavender	Small Anem.	July 16	Nov. 1	40.00
W. H. BUCKINGHAM. Rose pink.....	Short, Int. Sgl.	July 16	Nov. 3	40.00
S MRS. MORGAN G. BULKELEY. Light rose.....	Tall, Int. Pom.	July 19	Nov. 8	40.00
DARK PINK BULKELEY. Dark rose pink.....	Tall, Int. Pom.	July 19	Nov. 8	40.00
SPD THYRA. Lavender	Med., L. Pom.	July 19	Nov. 10	40.00
SPD QUEEN OF PINKS. Lavender	L. Pom.	July 19	Nov. 10	40.00
SPD MASTERPIECE. Tourmaline pink	Med., Int. Pom.	July 22	Nov. 15	40.00
ORCHID BEAUTY. Orchid, golden cushion.....	Med., Int. Anem.	July 22	Nov. 15	40.00
SD FREIDA. Light lavender, yellow cushion.....	Med., L. Anem.	July 22	Nov. 15	40.00
S BROCADE. Cameo pink	Int. Sgl.	July 22	Nov. 15	90.00
SD NORMA. Pink petals, salmon cushion.....	Tall, L. Anem.	July 25	Nov. 18	40.00
SD DARK PINK NORMA. Deep lavender.....	Tall, L. Anem.	July 25	Nov. 18	40.00
MINUET. Mauve to rose pink.....	Med., Int. Pom.	July 28	Nov. 25	70.00
USONA. Lavender	Med., Int. Pom.	July 28	Nov. 25	40.00
HASEGAWA PINK. Lavender	Med., Int. Sgl.	July 28	Nov. 25	40.00
PD BEAUTIFUL LADY. Deep lavender	Short, L. Anem.	July 28	Nov. 25	40.00
UNEEDA. Lavender	Int. Pom.	July 28	Nov. 25	40.00
D VALENCIA. Orchid pink	Tall, L. Sgl.	July 28	Nov. 28	40.00
D DARK PINK VALENCIA. Orchid pink	Tall, Int. Sgl.	July 28	Nov. 28	40.00
D ENCHANTRESS. Deep pink	Med., L. Anem.	July 31	Dec. 5	40.00
P RIVIERA. Luminous pink	Int. Dec.	Aug. 2	Dec. 10	50.00
PROSPERITY. Deep lavender	Med., Int. Dec.	Aug. 2	Dec. 10	40.00
D DARK PINK SUPREME. Lavender	Med., L. Anem.	Aug. 2	Dec. 10	40.00
PINK TREASURE ISLAND. Light lavender.....	Med., Int. Dec.	Aug. 7	Dec. 20	40.00
ROSALIND. Rose pink	Tall, Int. Sgl.	Aug. 7	Dec. 20	40.00

Pot Plant Varieties

YELLOW—POMPONS, SINGLES AND ANEMONES

SD YELLOW BEAUTY, Golden yellow	L. Pom.	July 19	Nov. 10	40.00
SUNRAY. Light lemon yellow	Med., Int. Anem.	July 22	Nov. 15	40.00
YELLOW CORDOVA. Lemon yellow	Med., Int. Dec.	July 28	Nov. 30	40.00

WHITE

S WHITE JEWELL	Short, S. Pom.	July 8	Oct. 15	40.00
GRANITE STATE	L. Pom.	July 12	Oct. 25	90.00
SD LITTLE AMERICA	Med., Int. Anem.	July 19	Nov. 10	40.00
SD RICHARD MANDEL	L. Pom.	July 19	Nov. 10	40.00



Pot Plant Varieties (Continued)

WHITE (Continued)

Name and Description	Size & Type	Pinching Date	Matures	Price per 1000
D WHITE YULETIDE	Short, Int. Pom.	July 28	Nov. 28	40.00
CORDOVA. Cream white	Med., Int. Dec.	July 28	Nov. 30	40.00

BRONZE AND RED

D RED MELBA. Light red	Short, L. Sgl.	July 19	Nov. 10	40.00
SD BRONZE MASTERPIECE. Rosewood bronze	Med., Int. Pom.	July 22	Nov. 15	40.00
GYPSY. Light reddish bronze	S. Anem.	July 22	Nov. 15	40.00
D RED ROLINDA. Deep reddish bronze.....	Med., Int. Anem.	July 25	Nov. 23	40.00

PINK

SD THYRA. Lavender	Med., L. Pom.	July 19	Nov. 10	40.00
SD QUEEN OF PINKS. Lavender.....	L. Pom.	July 19	Nov. 10	40.00
SD MASTERPIECE. Tourmaline pink	Med., Int. Pom.	July 22	Nov. 15	40.00
D BEAUTIFUL LADY. Deep lavender	Short, L. Anem.	July 28	Nov. 25	40.00
RIVIERA. Luminous pink	Int. Dec.	Aug. 2	Dec. 10	50.00

Large Flowering Commercial Varieties

YELLOW

GOLD LODGE. Light golden yellow.....	Int. Reflexed	July 4	Oct. 5	\$40.00
CELESTRA. Lemon yellow	S. Incurved	July 8	Oct. 15	40.00
S MRS. H. E. KIDDER. Deep lemon yellow.....	L. Incurved	July 12	Oct. 20	40.00
S BLAZING GOLD. Deep golden yellow.....	Int. Incurved	July 12	Oct. 25	40.00
S GOLDEN GLORY. Golden yellow	Int. Semi-Inc.	July 16	Nov. 1	40.00
CARDONIA. Deep golden yellow	Int. Incurved	July 19	Nov. 10	40.00
S PENROD. Golden yellow	Int. Incurved	July 19	Nov. 10	40.00
S BONNAFFON DELUXE. Golden yellow	S. Incurved	July 25	Nov. 20	40.00
FRIENDLY RIVAL. Deep chrome yellow.....	L. Incurved	July 25	Nov. 23	40.00
SUNGOLD. Lemon yellow	Int. Semi-Inc.	July 28	Nov. 25	40.00
IMPROVED TOBIN'S LATE YELLOW	Int. Semi-Inc.	Aug. 4	Dec. 15	40.00

WHITE

S CHRISTINA	S. Incurved	July 12	Oct. 20	40.00
S SNOW WHITE	Int. Incurved	July 16	Nov. 1	40.00
S MARKETEEER	Int. Semi-Inc.	July 25	Nov. 18	40.00
WHITE FRICK. White suffused pink.....	Int. Incurved	July 28	Nov. 25	40.00
MARGARET MOELLER. White	L. Incurved	Aug. 2	Dec. 8	90.00
SMITH'S LATE WHITE. Ivory white.....	Int. Semi-Inc.	Aug. 4	Dec. 15	40.00

BRONZE AND RED

ALAMEDA. Reddish bronze	Int. Incurved	July 12	Oct. 25	40.00
S GLITTERS. Deep reddish orange	Int. Reflexed	July 16	Oct. 28	40.00
S APRICOT QUEEN. Orange bronze	Int. Incurved	July 16	Nov. 1	40.00
IVANHOE. Reddish bronze	S. Incurved	July 16	Nov. 1	90.00
BRONZE FRICK. Light bronze	Int. Incurved	July 28	Nov. 25	40.00

PINK

EARLY OCTOBER. Light lavender.....	S. Semi-Inc.	July 4	Oct. 10	70.00
S JUSTRITE. Light rose pink	S. Incurved	July 8	Oct. 15	40.00
S J. W. PRINCE. Rose pink.....	Int. Incurved	July 19	Nov. 5	40.00
HELEN FRICK. Rose pink	Int. Incurved	July 28	Nov. 23	40.00

PLEASE NOTE SYMBOLS USED FOR THIS CLASS

The varieties listed above include those of all types which have been found most suitable for pot culture. Types are indicated by Sgl.—Single; Anem.—Anemone; Dec.—Decorative; Pom.—Pompon; Inc.—Incurved. Size of flower is indicated by S—Small; Int.—Intermediate; L.—Large; S.—Indicates varieties we find most suitable for shading.

The minimum number of cuttings of a variety that can be supplied in *unrooted* cuttings is 250. Price on unrooted cuttings will be \$12.50 per 1000 less than for rooted cuttings.

Note carefully instructions for ordering on page 32. No orders for less than 50 rooted cuttings of a variety accepted. Your total order must be for not less than 500 cuttings.



BETTER MUMS FOR FLORISTS



Geo. J. Ball
INC.

GROWING MUMS

(continued from page 3)

must be used accordingly. This is true of any cool temperature plant. Cinerarias and Calceolarias sometimes have quite a struggle to keep alive during mid-summer, but brace up wonderfully with cooling weather. While Mums tolerate summer heat better, they too brace up with fall weather. Although these conditions do not call for much difference in watering Mums, the experienced grower knows that it means some adjustment should be made; and every grower knows or should know that stiff, clayey soil is very much more retentive of moisture than a soil filled with organic matter and perhaps some sand. The difference in their water requirements is considerable. We are inclined to believe that, generally speaking, most growers do not use as much water as they should with raised bench crops. We checked on this in a series of experiments with Carnations a few years back. One plot was given a full watering between each regular watering of the house. In other words, this check received 100% more than was considered ample, and this was begun with planting in July. The result was as interesting as unexpected. Not only did the growth retain its dark color, but the crops came on more rapidly and the average stem length was about 6 in. ahead of the check, with production increase about 1 flower per plant. This check was carried on for 2 seasons with identical results, the variety Charm being used. While we do not believe Mums would tolerate this increase for their nature is different, we do feel that raised bed crops in open or light soil will frequently stand more water than they get.

SUMMERING MUMS OUTDOORS

The advantage of planting out in the open to be planted indoors later is that it permits using the greenhouse space for another crop that presumably pays. This is sometimes done with bunch Mums with a fair degree of success. It can be carried out with the big standards if planted in before August and mid-season or late varieties used. But if the test of cost accounting were put against this method, we believe the net would be cut some, perhaps substantially. The cost that the greenhouse grower or any other line must figure most closely today, and especially tomorrow, is labor. Every possible labor saving device or crop or method must be studied and put into use. In our thinking along that line isn't it easy, even without figures, to imagine a



One of our cold houses—pipe-frame construction. No ventilators or side walls. Ideal growing conditions for Mums.

considerable cost difference between planting rooted cuttings direct and summering in the field? Not only does the indoor growing entail considerable heavy labor in planting them out and bringing them in, but frequently the result is not uniformly so good. Such late planting tends to make blind growth in quite a few varieties. However, we have noted some fair results with this procedure. Further, if the indoor space can be used to substantial advantage up to August, and if union labor doesn't have to be used, the net might be in the black. We've also seen some pretty nicely finished pot plants that were grown in the open until early September. If lifted before fall rains soften them, they brace up and become established in a short time. Planting 3 cuttings in a 6 in. pot in June produces more uniformly good results, of course, but the field plants will not be quite so costly. After all is said on this, every grower's conditions vary. The fellow who has made out well with field growing will incline to discount our experience and ideas and be justified; but generally speaking, carrying them over in the field until late summer is not conducive to most profitable results.

SHADING FOR EARLY FLOWERS

We feel quite safe in saying that the most valuable cultural discovery for Mum growers is the short day nature of these plants. As it applies to the Mum family it means that buds can be set at any season thru simulating the fall or short days. The fact that bud setting is brought on by shortening daylight hours is demonstrated by delaying bud setting thru lengthening them with lights. Most val-



uable use is made of early flowering thru getting October varieties in September; and with pompons or the smaller bunching classes this can be done with advantage in an outdoor cloth house, for this class is generally hard enuf to stand several days of rainy wet weather. The large ones are softer, therefore more susceptible to loss thru rot under much atmospheric moisture. In fact some large October varieties tend to decay or spot during high September temperatures under greenhouse conditions unless atmospheric moisture is controlled.

As a rule the largest flowering varieties are the softest. We have quite successfully grown the large ones in frame houses covered with Flex-O-Glass attached to sash that fit into the framework of the house and are put in place as early as the big Mums show color.¹ The advantages of such open structures are full air exposure all summer and economy. Both are telling points. Also, these structures can be closed in all around to keep out frost in our latitude until November, especially if a few 1 inch steam pipes are run thru them. We have several such 20 ft. wide structures in the 35 ft. wide spaces between our regular large houses. This shelter is made to order for locating such structures. It should be clear that the production of early Pompons outdoors under cloth should be as economically done in the east as on the west coast. And it should be equally true that when the big flowers are grown in the light structures referred to, the added cost over that of the California growers should not exceed, possibly not equal, the western grower's air express cost to eastern markets. Don't forget, too, that the western grower sometimes loses his crop thru untoward weather conditions.

Put in a few words, shading for early bud setting and flowering of these short day plants consists of shortening daylight hours. This is done thru covering them closely from around 5 P.M. until 7:00 the next morning. Usually black sateen cloth is used, but we have used a sisalkraft paper with equal success. During daylight hours the degree of darkness need not or cannot practically be made total, but to get it dark enuf there should be no small openings for light to stream in, and the cloth should not be too old. The degree of outdoor darkness just before total darkness is about right when shade is applied. The shade material is supported on the beds with framework and wire, the material being unrolled over it thru being attached to a round pole in 10 ft. wide sections. Paper can only be used on top of the bed. For the sides use cloth attached to an upper wire along which it can be pushed back and forth by means of rings attached to cloth and wire. Where a considerable area is covered, we arrange to



Apricot Queen, two to a plant, with Albatross on the right grown in a Flexo Glass house photoed October 7th, started shading July 30th.

unroll the covering over the whole including walks. This makes side covering unnecessary except the outer edges of the area, and requires less material. The suggestion has been made that the shading material can be made to do double duty by applying it at 3 o'clock in the afternoon and at dusk moving it to another lot, over which it is left until 9 o'clock the next morning. According to several growers who have tried it, this is not a practical suggestion. Work involved in moving the cloth back and forth and being certain that no openings for light are left would alone make it impractical. Chances are the failures reported with it were caused by overlooking openings for light to stream in due to making the changes.

Planting for shading should be done 2-3 weeks earlier than when flowered normally. This is to insure stem length, the production of which of course ceases when buds are set. Terminal buds are usually set on pompons in 3-4 weeks after shading starts. The early or October varieties might make it in 3 weeks, assuming that the shading is heavy enuf and no undue light is streaming thru small openings. The effect about such openings will be delayed setting. With pompons the shading should be continued about 10 days longer for the benefit of the laterals that appear and set some later than the terminals. Buds or the big standards should be about the size of a nickel before shading is discontinued. Flowers may usually be expected with October varieties in 8-9 weeks after shading begins; but this will vary some with varieties and seasons.

Should applying shade be missed a few times, or if old or rather light cloth be used, the only effect will be to delay bud setting a few days—possibly a week. Also, on a rainy evening we prefer to either not apply the shade or remove it after dark. This is to avoid the close, high atmospheric humidity that closing them in sets up. Such an atmosphere sets up ideal conditions for the development

¹Flex-O-Glass is an inexpensive material and in our section can be bought locally. Also, I believe Sears list it under "sun ray cloth". While it tends to soften and run under high temperatures, we use it only during fall and spring; and if cared for find it good for 2 years and costs 2½¢ a square foot.



BETTER MUMS FOR FLORISTS



Geo. J. Ball
INC.



House of Silver Sheen. Benched first week in May. Shaded beginning July 15th.
This photo taken about Sept. 10th.

of a form of rot that blackens and destroys the foliage, especially about the base of the plants. Should this set in, better remove the side cloth at least every evening after dark to promote air circulation, but it must be replaced before daylight the next morning.

NEW INSECTICIDES

Several materials that have come on the market during and since the war which we find very effective:

Sodium Selenate, primarily for control of Mum midge. Also very effective against spider, leaf nematode, aphids, and some control of thrip. It is applied to soil like fertilizer and taken up by plants. Insects are killed by the Selenate when they feed on tissue of treated plants. Best form to use: "P-40", a powder applied to soil 3 lbs. per 100 sq. ft. Treat stock plants soon as established. Treat plants again 3 weeks after benching; same rate. (P-40 available from Plant Products Corp., Blue Point, L. I., N. Y.)

DDT—Very effective against thrip, also good for leaf roller and various other chewing insects. Kills tarnished plant bug. Kills Mum midge—as they emerge only, of course. There are a very few reports of injury to Mums from DDT, but generally OK. Try it out on a small lot first. Use Detex at strength recommended on can. (Available from Geo. J. Ball, Inc.)

Aerosol Bombs—The DDT is furnished in a metal "bomb" mixed with a gas which is highly compressed. Result is that by opening nozzle on end of the bomb finely atomized DDT (in solution) is sprayed out. The Davis Co., Terre Haute, Ind. and also Innes-Spieden Co. offer 5-10 lb. containers. More economical than the 1 lb. size available in filling stations. Also, the DDT in these larger bombs is dissolved in a solvent less harmful to plants.

PINCHING - "TAKING" BUDS

Pompons: Only way to insure getting the kind of spray formation desired year after year is to practice so-called "time pinching." Under the flowering schedule (elsewhere in this catalog) will be found a definite pinching date for all varieties including a pinching date for several shadings on appropriate sorts. You must bench early enough (usually several weeks) so that plants will be in shape to pinch on these dates. For example, to pinch Blazing Gold May 10 for August 1 flowering, you would have to bench in late April.

It should be added that plants should not be pinched on the given date ready or not. Don't pinch until the rooted cutting has made new roots and made several inches of new top growth.

For growers in the southern states, these pinching dates should be somewhat later; in Canada a little earlier. Your own experience is the best guide.

Mums: Same pinching procedure applies—and if followed, should time disbuds so that final flower bud may be properly selected. Generally if grown bud appears too soon, pinch a few days later next year. Two stems per plant is standard practice for most Mums.

For those unfamiliar with the terms, disbud Mums produce two types of bud clusters:

- Crown* bud first to appear, consists of a flowering bud surrounded by vegetative non-flowering shoots.
- Terminal* bud appears later. It is a flowering bud surrounded entirely by other flowering buds.

Normally an early Mum will send out a crown bud in August. If it is removed and the best one of the vegetative side shoots left on, this side shoot will later send out a terminal bud. Some varieties if benched early will send out a second crown bud cluster followed always by the terminal bud.

On early varieties not shaded, the safest rule is to remove crown buds that appear up to August 20, allowing the strongest side shoot to grow on. If a crown appears shortly after that date, it may be left on. Here again, experience is the best teacher. Try a few of each variety both ways. If crown is to be left, remove all side shoots. If a terminal bud is to be left, do likewise. This is called taking the bud. Shading will advance these dates correspondingly.

On mid-season varieties, final flowering buds should have been selected by around Sept. 1 to 10; on late varieties by Oct. 1 to 10. On late varieties, the terminal bud is always used.

Definite dates for selecting final buds must be tempered by the grower's experience. The only really dependable date for you is the one based on last year's experience. Keep records yourself. Try pinching, taking buds, etc., a little later than usual or early and note results—in writing.

(continued on page 23)



Flowering Schedule

FOR MUMS BOTH SHADED AND NORMAL

We give below the date to start shading and the varieties in the various colors that respond best to this treatment.

.....Items marked like this bloom at dates given without shading.

STANDARDS

YELLOW

Variety	Pinching Date	Shading Date	Flowering Date
Blazing Gold	May 10	June 19	Aug. 19
Blazing Gold	May 17	June 26	Aug. 26
Good News	May 14	June 23	Aug. 26
Blazing Gold	May 24	July 3	Sept. 2
Good News	May 21	June 30	Sept. 2
Penrod	May 17	June 26	Sept. 2
Indianapolis Yellow	May 17	June 26	Sept. 2
Blazing Gold	May 31	July 10	Sept. 9
Good News	May 28	July 7	Sept. 9
Penrod	May 24	July 3	Sept. 9
Indianapolis Yellow	May 24	July 3	Sept. 9
Blazing Gold	June 7	July 17	Sept. 16
Good News	June 4	July 14	Sept. 16
Penrod	May 31	July 10	Sept. 16
Indianapolis Yellow	May 31	July 10	Sept. 16
Yellow Mefo	May 23	July 2	Sept. 16
Good News	June 11	July 21	Sept. 23
Penrod	June 7	July 17	Sept. 23
Indianapolis Yellow	June 7	July 17	Sept. 23
Yellow Mefo	May 30	July 9	Sept. 23
Marie Depetris	May 26	July 5	Sept. 23
Good News	June 18	July 28	Sept. 30
Penrod	June 14	July 24	Sept. 30
Indianapolis Yellow	June 14	July 24	Sept. 30
Yellow Mefo	June 6	July 16	Sept. 30
Marie Depetris	June 2	July 12	Sept. 30
Good News	June 25	Aug. 4	Oct. 7
Penrod	June 21	July 31	Oct. 7
Indianapolis Yellow	June 21	July 31	Oct. 7
Yellow Mefo	June 13	July 23	Oct. 7
Marie Depetris	June 9	July 19	Oct. 7
Good News	July 2	Aug. 11	Oct. 14
Penrod	June 28	Aug. 7	Oct. 14
Indianapolis Yellow	June 28	Aug. 7	Oct. 14
Yellow Mefo	June 20	July 30	Oct. 14
Marie Depetris	June 16	July 26	Oct. 14
Mrs. Kidder	July 12	.....	Oct. 20
Blazing Gold	July 12	.....	Oct. 25
Sunglow	July 12	.....	Oct. 25
Cironella	July 16	.....	Oct. 28
Good News	July 16	.....	Nov. 1
Penrod	July 19	.....	Nov. 10
Indianapolis Yellow	July 19	.....	Nov. 10
Yellow Monument	July 22	.....	Nov. 15
Yellow Mefo	July 25	.....	Nov. 20
Friendly Rival	July 25	.....	Nov. 20
Marie Depetris	July 25	.....	Nov. 23
Harvester	July 28	.....	Nov. 25

Variety	Pinching Date	Shading Date	Flowering Date
Golden Pearson	July 28	.....	Nov. 25
Imp. Yellow Chattanooga	July 28	.....	Nov. 25
Golden Mrs. Ross	July 31	.....	Dec. 3
Meteore	Aug. 2	.....	Dec. 10
Imp. Tobin's Late Yellow	Aug. 4	.....	Dec. 15

WHITE

Silver Sheen	May 10	June 19	Aug. 19
Silver Sheen	May 17	June 26	Aug. 26
Albatross	May 14	June 23	Aug. 26
Betsy Ross	May 14	June 23	Aug. 26
Silver Sheen	May 24	July 3	Sept. 2
Albatross	May 21	June 30	Sept. 2
Betsy Ross	May 21	June 30	Sept. 2
Indianapolis White	May 17	June 26	Sept. 2
Silver Sheen	May 31	July 10	Sept. 9
Albatross	May 28	July 7	Sept. 9
Betsy Ross	May 28	July 7	Sept. 9
Indianapolis White	May 24	July 3	Sept. 9
Monument	May 20	June 29	Sept. 9
Silver Sheen	June 7	July 17	Sept. 16
Albatross	June 4	July 14	Sept. 16
Betsy Ross	June 4	July 14	Sept. 16
Indianapolis White	May 31	July 10	Sept. 16
Monument	May 27	July 6	Sept. 16
Mefo	May 23	July 2	Sept. 16
Albatross	June 11	July 21	Sept. 23
Betsy Ross	June 11	July 21	Sept. 23
Indianapolis White	June 7	July 17	Sept. 23
Monument	June 3	July 13	Sept. 23
Mefo	May 30	July 9	Sept. 23
Albatross	June 18	July 28	Sept. 30
Indianapolis White	June 14	July 24	Sept. 30
Monument	June 10	July 20	Sept. 30
Mefo	June 6	July 16	Sept. 30
Albatross	June 25	Aug. 4	Oct. 7
Indianapolis White	June 21	July 31	Oct. 7
Monument	June 17	July 27	Oct. 7
Mefo	June 13	July 23	Oct. 7
Albatross	July 2	Aug. 11	Oct. 14
Indianapolis White	June 28	Aug. 7	Oct. 14
Monument	June 24	Aug. 3	Oct. 14
Mefo	June 20	July 30	Oct. 14
Silver Sheen	July 12	.....	Oct. 20
Albatross	July 16	.....	Nov. 1
Snow White	July 16	.....	Nov. 1
Betsy Ross	July 16	.....	Nov. 1
Indianapolis White	July 19	.....	Nov. 8

*Flowering Schedule (Continued)*

STANDARDS

WHITE (Continued)

Variety	Pinching Date	Shading Date	Flowering Date
Monument	July 22	.....	Nov. 15
Marketeer	July 25	.....	Nov. 18
Mefo	July 25	.....	Nov. 20
Chattanooga	July 28	.....	Nov. 25
December Glory Large ..	July 31	.....	Dec. 1
Margaret Moeller	July 31	.....	Dec. 8
White Mistletoe	Aug. 2	.....	Dec. 10
Smith's Late White	Aug. 4	.....	Dec. 15

BRONZE

Hilda Bergen	May 10	June 19	Aug. 19
Hilda Bergen	May 17	June 26	Aug. 26
Ivanhoe	May 14	June 23	Aug. 26
Detroit News	May 14	June 23	Aug. 26
Hilda Bergen	May 24	July 3	Sept. 2
Ivanhoe	May 21	June 30	Sept. 2
Detroit News	May 21	June 30	Sept. 2
Ind. Bronze	May 17	June 26	Sept. 2
Hilda Bergen	May 31	July 10	Sept. 9
Ivanhoe	May 28	July 7	Sept. 9
Detroit News	May 28	July 7	Sept. 9
Ind. Bronze	May 24	July 3	Sept. 9
Anaconda	May 20	June 29	Sept. 9
Mrs. Roy	May 20	June 29	Sept. 9
Hilda Bergen	June 7	July 17	Sept. 16
Ivanhoe	June 4	July 14	Sept. 16
Detroit News	June 4	July 14	Sept. 16
Ind. Bronze	May 31	July 10	Sept. 16
Anaconda	May 27	July 6	Sept. 16
Mrs. Roy	May 27	July 6	Sept. 16
Ivanhoe	June 11	July 21	Sept. 23
Detroit News	June 11	July 21	Sept. 23
Ind. Bronze	June 7	July 17	Sept. 23
Anaconda	June 3	July 13	Sept. 23
Mrs. Roy	June 3	July 13	Sept. 23
Detroit News	June 18	July 28	Sept. 30
Ind. Bronze	June 14	July 24	Sept. 30
Anaconda	June 10	July 20	Sept. 30
Mrs. Roy	June 10	July 20	Sept. 30
Detroit News	June 25	Aug. 4	Oct. 7
Ind. Bronze	June 21	July 31	Oct. 7
Anaconda	June 17	July 27	Oct. 7
Mrs. Roy	June 17	July 27	Oct. 7
Detroit News	July 2	Aug. 11	Oct. 14
Ind. Bronze	June 28	Aug. 7	Oct. 14
Anaconda	June 24	Aug. 3	Oct. 14
Mrs. Roy	June 24	Aug. 3	Oct. 14
Detroit News	July 9	Aug. 18	Oct. 21
Ind. Bronze	July 5	Aug. 14	Oct. 21
Anaconda	July 1	Aug. 10	Oct. 21
Mrs. Roy	July 1	Aug. 10	Oct. 21
Hilda Bergen	July 12	.....	Oct. 25
Ivanhoe	July 16	.....	Nov. 1
Detroit News	July 16	.....	Nov. 1
Ind. Bronze	July 19	.....	Nov. 8
Br. Orchid Queen	July 19	.....	Nov. 10
Anaconda	July 22	.....	Nov. 15

Variety	Pinching Date	Shading Date	Flowering Date
Mrs. Roy	July 22	.....	Nov. 15
Gladys Pearson	July 28	.....	Nov. 25
Oak Leaf	July 28	.....	Nov. 25

PINK

Pink Chief	May 13	June 22	Aug. 19
Pink Chief	May 20	June 29	Aug. 26
Oct. Rose	May 17	June 26	Aug. 26
Major Bowes	May 17	June 26	Aug. 26
J. W. Prince	May 14	June 23	Aug. 26
Pink Chief	May 27	July 14	Sept. 2
Oct. Rose	May 24	July 3	Sept. 2
Major Bowes	May 24	July 3	Sept. 2
J. W. Prince	May 21	June 30	Sept. 2
Ind. Pink	May 17	June 26	Sept. 2
Oct. Rose	May 31	July 10	Sept. 9
Major Bowes	May 31	July 10	Sept. 9
J. W. Prince	May 28	July 7	Sept. 9
Ind. Pink	May 24	July 3	Sept. 9
Oct. Rose	June 7	July 17	Sept. 16
Major Bowes	June 7	July 17	Sept. 16
J. W. Prince	June 4	July 14	Sept. 16
Ind. Pink	May 31	July 10	Sept. 16
Orchid Queen	May 31	July 10	Sept. 16
Dk. Pink Orchid Queen ..	May 31	July 10	Sept. 16
Oct. Rose	June 14	July 24	Sept. 23
J. W. Prince	June 11	July 21	Sept. 23
Ind. Pink	June 7	July 17	Sept. 23
Orchid Queen	June 7	July 17	Sept. 23
Dk. Pink Orchid Queen ..	June 7	July 17	Sept. 23
Edwin Seidewitz	May 26	July 5	Sept. 23
Oct. Rose	June 21	July 31	Sept. 30
J. W. Prince	June 17	July 27	Sept. 30
Ind. Pink	June 14	July 24	Sept. 30
Orchid Queen	June 14	July 24	Sept. 30
Dk. Pink Orchid Queen ..	June 14	July 24	Sept. 30
Edwin Seidewitz	June 2	July 12	Sept. 30
Oct. Rose	June 28	Aug. 7	Oct. 7
J. W. Prince	June 24	Aug. 3	Oct. 7
Ind. Pink	June 21	July 31	Oct. 7
Orchid Queen	June 21	July 31	Oct. 7
Dk. Pink Orchid Queen ..	June 21	July 31	Oct. 7
Edwin Seidewitz	June 9	July 19	Oct. 7
Oct. Rose	July 4	Aug. 14	Oct. 14
J. W. Prince	July 1	Aug. 10	Oct. 14
Ind. Pink	June 28	Aug. 7	Oct. 14
Orchid Queen	June 28	Aug. 7	Oct. 14
Dk. Pink Orchid Queen ..	June 28	Aug. 7	Oct. 14
Edwin Seidewitz	June 16	July 26	Oct. 14
Pink Chief	July 8	.....	Oct. 15
Oct. Rose	July 12	.....	Oct. 20
Major Bowes	July 12	.....	Oct. 20
J. W. Prince	July 16	.....	Nov. 1
Ind. Pink	July 19	.....	Nov. 8
Orchid Queen	July 19	.....	Nov. 10
Dk. Pink Orchid Queen ..	July 19	.....	Nov. 10
Thanks. Pink	July 25	.....	Nov. 23
Helen Frick	July 28	.....	Nov. 25
Edwin Seidewitz	July 28	.....	Nov. 25



Flowering Schedule (Continued)

POMS, SINGLES, AND ANEMONES

YELLOW

Variety	Pinching Date	Shading Date	Flowering Date
Yellow Irene	April 29	June 8	Aug. 5
Gold Coast	April 26	June 5	Aug. 5
Yellow Irene	May 6	June 15	Aug. 12
Gold Coast	May 3	June 12	Aug. 12
Yellow Irene	May 13	June 22	Aug. 19
Gold Coast	May 10	June 19	Aug. 19
Yellow Dot	May 10	June 19	Aug. 19
Yellow Irene	May 20	June 29	Aug. 26
Gold Coast	May 17	June 26	Aug. 26
Yellow Dot	May 17	June 26	Aug. 26
Golden Herald	May 14	June 23	Aug. 26
Yellow Daisy	May 14	June 23	Aug. 26
Yellow Arcadia	May 14	June 23	Aug. 26
Gold Coast	May 24	July 3	Sept. 2
Yellow Dot	May 24	July 3	Sept. 2
Golden Herald	May 21	June 30	Sept. 2
Yellow Daisy	May 21	June 30	Sept. 2
Yellow Arcadia	May 21	June 30	Sept. 2
Barcarole	May 17	June 26	Sept. 2
Nuggets	May 17	June 26	Sept. 2
Yellow Bushnell	May 17	June 26	Sept. 2
Pixie	May 17	June 26	Sept. 2
Gold Coast	May 31	July 10	Sept. 9
Yellow Dot	May 31	July 10	Sept. 9
Golden Herald	May 28	July 7	Sept. 9
Yellow Daisy	May 28	July 7	Sept. 9
Yellow Arcadia	May 28	July 7	Sept. 9
Barcarole	May 24	July 3	Sept. 9
Nuggets	May 24	July 3	Sept. 9
Yellow Bushnell	May 24	July 3	Sept. 9
Pixie	May 24	July 3	Sept. 9
Yellow Fellow	May 20	June 29	Sept. 9
Gold Coast	June 7	July 17	Sept. 16
Golden Herald	June 4	July 14	Sept. 16
Yellow Daisy	June 4	July 14	Sept. 16
Yellow Arcadia	June 4	July 14	Sept. 16
Barcarole	May 31	July 10	Sept. 16
Nuggets	May 31	July 10	Sept. 16
Yellow Bushnell	May 31	July 10	Sept. 16
Pixie	May 31	July 10	Sept. 16
Yellow Fellow	May 27	July 6	Sept. 16
Princeton	May 23	July 2	Sept. 16
Gold Coast	June 14	July 24	Sept. 23
Golden Herald	June 11	July 21	Sept. 23
Yellow Daisy	June 11	July 21	Sept. 23
Yellow Arcadia	June 11	July 21	Sept. 23
Barcarole	June 7	July 17	Sept. 23
Nuggets	June 7	July 17	Sept. 23
Yellow Bushnell	June 7	July 17	Sept. 23
Pixie	June 7	July 17	Sept. 23
Yellow Fellow	June 3	July 13	Sept. 23
Princeton	May 30	July 9	Sept. 23
Gold Coast	June 21	July 31	Sept. 30
Barcarole	June 14	July 24	Sept. 30
Nuggets	June 14	July 24	Sept. 30
Yellow Bushnell	June 14	July 24	Sept. 30

Variety	Pinching Date	Shading Date	Flowering Date
Pixie	June 14	July 24	Sept. 30
Yellow Fellow	June 10	July 20	Sept. 30
Princeton	June 6	July 16	Sept. 30
Goldsmith	June 2	July 12	Sept. 30
Golden Jane	June 2	July 12	Sept. 30
Gold Coast	June 28	Aug. 7	Oct. 7
Barcarole	June 21	July 31	Oct. 7
Nuggets	June 21	July 31	Oct. 7
Yellow Bushnell	June 21	July 31	Oct. 7
Pixie	June 21	July 31	Oct. 7
Yellow Fellow	June 17	July 27	Oct. 7
Princeton	June 13	July 23	Oct. 7
Goldsmith	June 9	July 19	Oct. 7
Golden Jane	June 9	July 19	Oct. 7
Gold Coast	July 5	Aug. 14	Oct. 14
Barcarole	June 28	Aug. 7	Oct. 14
Nuggets	June 28	Aug. 7	Oct. 14
Yellow Bushnell	June 28	Aug. 7	Oct. 14
Pixie	June 28	Aug. 7	Oct. 14
Yellow Fellow	June 24	July 31	Oct. 14
Princeton	June 20	July 30	Oct. 14
Goldsmith	June 16	July 26	Oct. 14
Golden Jane	June 16	July 26	Oct. 14

WHITE

Irene	April 29	June 8	Aug. 5
White Jewell	April 29	June 8	Aug. 5
Pinocchio	April 26	June 5	Aug. 5
Irene	May 6	June 15	Aug. 12
White Jewell	May 6	June 15	Aug. 12
Pinocchio	May 3	June 12	Aug. 12
Irene	May 13	June 22	Aug. 19
White Jewell	May 13	June 22	Aug. 19
Pinocchio	May 10	June 19	Aug. 19
Minong	May 10	June 19	Aug. 19
Irene	May 20	June 29	Aug. 26
White Jewell	May 20	June 29	Aug. 26
Pinocchio	May 17	June 26	Aug. 26
Minong	May 17	June 26	Aug. 26
Arcadia	May 14	June 23	Aug. 26
Irene	May 27	July 6	Sept. 2
White Jewell	May 27	July 6	Sept. 2
Pinocchio	May 24	July 3	Sept. 2
Minong	May 24	July 3	Sept. 2
Arcadia	May 21	June 30	Sept. 2
Sea Gull	May 17	June 26	Sept. 2
Rev. Bushnell	May 17	June 26	Sept. 2
Lakme	May 13	June 22	Sept. 2
Irene	June 3	July 13	Sept. 9
White Jewell	June 3	July 13	Sept. 9
Pinocchio	May 31	July 10	Sept. 9
Minong	May 31	July 10	Sept. 9
Arcadia	May 28	July 7	Sept. 9
Sea Gull	May 24	July 3	Sept. 9
Rev. Bushnell	May 24	July 3	Sept. 9
Lakme	May 20	June 29	Sept. 9

*Flowering Schedule* (Continued)

POMS, SINGLES, AND ANEMONES

WHITE (Continued)

Variety	Pinching Date	Shading Date	Flowering Date
Pinocchio	June 7	July 17	Sept. 16
Minong	June 7	July 17	Sept. 16
Arcadia	June 4	July 14	Sept. 16
Sea Gull	May 31	July 10	Sept. 16
Rev. Bushnell	May 31	July 10	Sept. 16
Lakme	May 27	July 6	Sept. 16
Matchless	May 23	July 2	Sept. 16
Pinocchio	June 14	July 24	Sept. 23
Arcadia	June 11	July 21	Sept. 23
Sea Gull	June 7	July 17	Sept. 23
Rev. Bushnell	June 7	July 17	Sept. 23
Vesper	June 3	July 13	Sept. 23
Lakme	June 3	July 13	Sept. 23
Little America	June 3	July 13	Sept. 23
Matchless	May 30	July 9	Sept. 23
Seafoam	May 26	July 5	Sept. 23
Pinocchio	June 21	July 31	Sept. 30
Arcadia	June 18	July 28	Sept. 30
Sea Gull	June 14	July 24	Sept. 30
Rev. Bushnell	June 14	July 24	Sept. 30
Vesper	June 10	July 20	Sept. 30
Lakme	June 10	July 20	Sept. 30
Little America	June 10	July 20	Sept. 30
Matchless	June 6	July 16	Sept. 30
Seafoam	June 2	July 12	Sept. 30
Pinocchio	June 28	Aug. 7	Oct. 7
Arcadia	June 25	Aug. 4	Oct. 7
Sea Gull	June 21	July 31	Oct. 7
Rev. Bushnell	June 21	July 31	Oct. 7
Vesper	June 17	July 27	Oct. 7
Lakme	June 17	July 27	Oct. 7
Little America	June 17	July 27	Oct. 7
Matchless	June 13	July 23	Oct. 7
Seafoam	June 9	July 19	Oct. 7
Pinocchio	July 4	Aug. 14	Oct. 14
Arcadia	July 2	Aug. 11	Oct. 14
Sea Gull	June 28	Aug. 7	Oct. 14
Rev. Bushnell	June 28	Aug. 7	Oct. 14
Vesper	June 24	Aug. 3	Oct. 14
Lakme	June 24	Aug. 3	Oct. 14
Little America	June 24	Aug. 3	Oct. 14
Matchless	June 20	July 30	Oct. 14
Seafoam	June 16	July 26	Oct. 14

BRONZE

Firebird	May 10	June 19	Aug. 19
Adelaide	May 10	June 19	Aug. 19
Roman Bronze	May 10	June 19	Aug. 19
Firebird	May 17	June 26	Aug. 26
Adelaide	May 17	June 26	Aug. 26
Roman Bronze	May 17	June 26	Aug. 26
Red Daisy	May 14	June 23	Aug. 26
Firebird	May 24	July 3	Sept. 2
Adelaide	May 24	July 3	Sept. 2
Roman Bronze	May 24	July 3	Sept. 2
Red Daisy	May 21	June 30	Sept. 2
Navaho	May 17	June 26	Sept. 2
Cassandra	May 17	June 26	Sept. 2

Variety	Pinching Date	Shading Date	Flowering Date
Robin Hood	May 17	June 26	Sept. 2
Firebird	May 31	July 10	Sept. 9
Adelaide	May 31	July 10	Sept. 9
Roman Bronze	May 31	July 10	Sept. 9
Red Daisy	May 28	July 7	Sept. 9
Navaho	May 24	July 3	Sept. 9
Cassandra	May 24	July 3	Sept. 9
Robin Hood	May 24	July 3	Sept. 9
Bronze Bulkeley	May 24	July 3	Sept. 9
Sylvanna	May 20	June 29	Sept. 9
Firebird	June 7	July 17	Sept. 16
Roman Bronze	June 7	July 17	Sept. 16
Red Daisy	June 4	July 14	Sept. 16
Navaho	May 31	July 10	Sept. 16
Cassandra	May 31	July 10	Sept. 16
Robin Hood	May 31	July 10	Sept. 16
Bronze Bulkeley	May 31	July 10	Sept. 16
Sylvanna	May 27	July 6	Sept. 16
Red Daisy	June 11	July 21	Sept. 23
Navaho	June 7	July 17	Sept. 23
Cassandra	June 7	July 17	Sept. 23
Robin Hood	June 7	July 17	Sept. 23
Bronze Bulkeley	June 7	July 17	Sept. 23
Bronze Masterpiece	June 3	July 13	Sept. 23
Sylvanna	June 3	July 13	Sept. 23
Red Princeton	May 30	July 9	Sept. 23
Bronze Goldsmith	May 26	July 5	Sept. 23
Navaho	June 14	July 24	Sept. 30
Cassandra	June 14	July 24	Sept. 30
Robin Hood	June 14	July 24	Sept. 30
Bronze Bulkeley	June 14	July 24	Sept. 30
Bronze Masterpiece	June 10	July 20	Sept. 30
Sylvanna	June 10	July 20	Sept. 30
Red Princeton	June 6	July 16	Sept. 30
Bittersweet	June 6	July 16	Sept. 30
Bronze Goldsmith	June 2	July 12	Sept. 30
Apricot Valencia	June 2	July 12	Sept. 30
Navaho	June 21	July 31	Oct. 7
Cassandra	June 21	July 31	Oct. 7
Robin Hood	June 21	July 31	Oct. 7
Bronze Bulkeley	June 21	July 31	Oct. 7
Bronze Masterpiece	June 17	July 27	Oct. 7
Sylvanna	June 17	July 27	Oct. 7
Red Princeton	June 13	July 23	Oct. 7
Bittersweet	June 13	July 23	Oct. 7
Bronze Goldsmith	June 9	July 19	Oct. 7
Apricot Valencia	June 9	July 19	Oct. 7
Navaho	June 28	Aug. 7	Oct. 14
Cassandra	June 28	Aug. 7	Oct. 14
Robin Hood	June 28	Aug. 7	Oct. 14
Bronze Bulkeley	June 28	Aug. 7	Oct. 14
Bronze Masterpiece	June 24	Aug. 3	Oct. 14
Sylvanna	June 24	Aug. 3	Oct. 14
Red Princeton	June 20	July 30	Oct. 14
Bittersweet	June 20	July 30	Oct. 14
Bronze Goldsmith	June 16	July 26	Oct. 14
Apricot Valencia	June 16	July 26	Oct. 14



Flowering Schedule (Continued)

POMS, SINGLES, AND ANEMONES

PINK

Variety	Pinching Date	Shading Date	Flowering Date
Dark Pink Jewell	April 29	June 8	Aug. 5
Caroline Yosick	April 26	June 5	Aug. 5
Pink Pearl	May 6	June 15	Aug. 12
Jewell	May 6	June 15	Aug. 12
Dark Pink Jewell	May 6	June 15	Aug. 12
Caroline Yosick	May 3	June 12	Aug. 12
Pink Pearl	May 13	June 22	Aug. 19
Jewell	May 13	June 22	Aug. 19
Dark Pink Jewell	May 13	June 22	Aug. 19
Captain Cook	May 10	June 19	Aug. 19
Pink Dot	May 10	June 19	Aug. 19
Jessie	May 10	June 19	Aug. 19
Caroline Yosick	May 10	June 19	Aug. 19
Pink Pearl	May 20	June 29	Aug. 26
Jewell	May 20	June 29	Aug. 26
Dark Pink Jewell	May 20	June 29	Aug. 26
Captain Cook	May 17	June 26	Aug. 26
Pink Dot	May 17	June 26	Aug. 26
Jessie	May 17	June 26	Aug. 26
Caroline Yosick	May 17	June 26	Aug. 26
October Pink	May 14	June 23	Aug. 26
Pink Pearl	May 27	July 6	Sept. 2
Jewell	May 27	July 6	Sept. 2
Dark Pink Jewell	May 27	July 6	Sept. 2
Captain Cook	May 24	July 3	Sept. 2
Pink Dot	May 24	July 3	Sept. 2
Jessie	May 24	July 3	Sept. 2
Caroline Yosick	May 24	July 3	Sept. 2
October Pink	May 21	June 30	Sept. 2
Mrs. Bulkeley	May 17	June 26	Sept. 2
Dark Pink Bulkeley ...	May 17	June 26	Sept. 2
Pink Pearl	June 3	July 13	Sept. 9
Jewell	June 3	July 13	Sept. 9
Dark Pink Jewell	June 3	July 13	Sept. 9
Captain Cook	May 31	July 10	Sept. 9
Pink Dot	May 31	July 10	Sept. 9
Jessie	May 31	July 10	Sept. 9
Caroline Yosick	May 31	July 10	Sept. 9
October Pink	May 28	July 7	Sept. 9
Mrs. Bulkeley	May 24	July 3	Sept. 9
Dark Pink Bulkeley ...	May 24	July 3	Sept. 9
Captain Cook	June 7	July 17	Sept. 16
Pink Dot	June 7	July 17	Sept. 16
Jessie	June 7	July 17	Sept. 16

PINK

Variety	Pinching Date	Shading Date	Flowering Date
Caroline Yosick	June 7	July 17	Sept. 16
October Pink	June 4	July 14	Sept. 16
Mrs. Bulkeley	May 31	July 10	Sept. 16
Dark Pink Bulkeley ...	May 31	July 10	Sept. 16
Captain Cook	June 14	July 24	Sept. 23
Pink Dot	June 14	July 24	Sept. 23
Jessie	June 14	July 24	Sept. 23
Caroline Yosick	June 14	July 24	Sept. 23
October Pink	June 11	July 21	Sept. 23
Mrs. Bulkeley	June 7	July 17	Sept. 23
Dark Pink Bulkeley ...	June 7	July 17	Sept. 23
Masterpiece	June 3	July 13	Sept. 23
Brocade	June 3	July 13	Sept. 23
Captain Cook	June 21	July 31	Sept. 30
Pink Dot	June 21	July 31	Sept. 30
Jessie	June 21	July 31	Sept. 30
Caroline Yosick	June 21	July 31	Sept. 30
October Pink	June 18	July 28	Sept. 30
Mrs. Bulkeley	June 14	July 24	Sept. 30
Dark Pink Bulkeley ...	June 14	July 24	Sept. 30
Masterpiece	June 10	July 20	Sept. 30
Brocade	June 10	July 20	Sept. 30
Minuet	June 2	July 12	Sept. 30
Dark Pink Valencia ...	June 2	July 12	Sept. 30
Valencia	June 2	July 12	Sept. 30
Captain Cook	June 28	Aug. 7	Oct. 7
Pink Dot	June 28	Aug. 7	Oct. 7
Jessie	June 28	Aug. 7	Oct. 7
Caroline Yosick	June 28	Aug. 7	Oct. 7
October Pink	June 25	Aug. 4	Oct. 7
Mrs. Bulkeley	June 21	July 31	Oct. 7
Dark Pink Bulkeley ...	June 21	July 31	Oct. 7
Masterpiece	June 17	July 27	Oct. 7
Brocade	June 17	July 27	Oct. 7
Minuet	June 9	July 19	Oct. 7
Dark Pink Valencia ...	June 9	July 19	Oct. 7
Valencia	June 9	July 19	Oct. 7
Captain Cook	July 5	Aug. 14	Oct. 14
Pink Dot	July 5	Aug. 14	Oct. 14
Jessie	July 5	Aug. 14	Oct. 14
Caroline Yosick	July 5	Aug. 14	Oct. 14
October Pink	July 2	Aug. 11	Oct. 14
Mrs. Bulkeley	June 28	Aug. 7	Oct. 14
Dark Pink Bulkeley ...	June 28	Aug. 7	Oct. 14
Masterpiece	June 24	Aug. 3	Oct. 14
Brocade	June 24	Aug. 3	Oct. 14
Minuet	June 16	July 26	Oct. 14
Dark Pink Valencia ...	June 16	July 26	Oct. 14
Valencia	June 16	July 26	Oct. 14

Every grower knows from experience that the very nature of the business of propagating and shipping cuttings involves some uncertainties. This is particularly true of those selling their surplus or whose facilities are not extensive. The very active demand of the war years has made this more or less true with all propagators due to the labor situation. Unfortunately, it has not been possible to greatly improve this situation the past season; but we have reasons to believe that it will be bettered

substantially the coming year. However, the uncertainty of demand for varieties will always leave it impossible to unfailingly fill all orders 100%. Our propagators are the largest and best equipped to supply rooted Mum cuttings; but it must be admitted that orders placed early stand the best possible chance of being completely cared for. Should you unexpectedly require more late in the season, we will do our utmost to take the best possible care of you.

*Flowering Schedule* (Continued)

POT PLANT VARIETIES

YELLOW

Variety	Last Pinching Date	Shading Date	Flowering Date
Gold Lode	July 6	July 6	Sept. 2
Celestra	July 6	July 6	Sept. 2
Blazing Gold	July 3	July 3	Sept. 2
Mrs. Kidder	July 3	July 3	Sept. 2
Golden Glory	June 30	June 30	Sept. 2
Yellow Beauty	June 26	June 26	Sept. 2
Gold Lode	July 13	July 13	Sept. 9
Celestra	July 13	July 13	Sept. 9
Blazing Gold	July 10	July 10	Sept. 9
Mrs. Kidder	July 10	July 10	Sept. 9
Golden Glory	July 7	July 7	Sept. 9
Yellow Beauty	July 3	July 3	Sept. 9
Blazing Gold	July 17	July 17	Sept. 16
Mrs. Kidder	July 17	July 17	Sept. 16
Golden Glory	July 14	July 14	Sept. 16
Yellow Beauty	July 10	July 10	Sept. 16
Cardonia	July 10	July 10	Sept. 16
Penrod	July 10	July 10	Sept. 16
Yellow Beauty	July 17	July 17	Sept. 23
Cardonia	July 17	July 17	Sept. 23
Penrod	July 17	July 17	Sept. 23
Sunray	July 13	July 13	Sept. 23
Bonnaffon Deluxe	July 9	July 9	Sept. 23
Sungold	July 5	July 5	Sept. 23
Yellow Beauty	July 24	July 24	Sept. 30
Cardonia	July 24	July 24	Sept. 30
Penrod	July 24	July 24	Sept. 30
Sunray	July 20	July 20	Sept. 30
Bonnaffon Deluxe	July 16	July 16	Sept. 30
Sungold	July 12	July 12	Sept. 30
Yellow Beauty	July 31	July 31	Oct. 7
Cardonia	July 31	July 31	Oct. 7
Penrod	July 31	July 31	Oct. 7
Sunray	July 27	July 27	Oct. 7
Bonnaffon Deluxe	July 23	July 23	Oct. 7
Sungold	July 19	July 19	Oct. 7
Yellow Beauty	Aug. 7	Aug. 7	Oct. 14
Cardonia	Aug. 7	Aug. 7	Oct. 14
Penrod	Aug. 7	Aug. 7	Oct. 14
Sunray	Aug. 3	Aug. 3	Oct. 14
Bonnaffon Deluxe	July 30	July 30	Oct. 14
Sungold	July 26	July 26	Oct. 14
Gold Lode	Aug. 17	.....	Oct. 15
Celestra	Aug. 17	.....	Oct. 15
Mrs. Kidder	Aug. 21	.....	Oct. 20
Blazing Gold	Aug. 21	.....	Oct. 25
Golden Glory	Aug. 25	.....	Nov. 1
Yellow Beauty	Aug. 31	.....	Nov. 10
Penrod	Aug. 31	.....	Nov. 10
Cardonia	Aug. 31	.....	Nov. 10
Sunray	Aug. 31	.....	Nov. 15
Bonnaffon Deluxe	Sept. 3	.....	Nov. 20
Friendly Rival	Sept. 3	.....	Nov. 20
Sungold	Sept. 6	.....	Nov. 25
Yellow Cordova	Sept. 6	.....	Nov. 30
Imp. Tobin's Yellow...	Sept. 13	.....	Dec. 15

WHITE

Variety	Last Pinching Date	Shading Date	Flowering Date
Christina	July 3	July 3	Sept. 2
Granite State	July 3	July 3	Sept. 2
Snow White	June 30	June 30	Sept. 2
Richard Mandel	June 26	June 26	Sept. 2
Christina	July 10	July 10	Sept. 9
Granite State	July 10	July 10	Sept. 9
Snow White	July 7	July 7	Sept. 9
Richard Mandel	July 3	July 3	Sept. 9
Little America	June 29	June 29	Sept. 9
Christina	July 17	July 17	Sept. 16
Granite State	July 17	July 17	Sept. 16
Snow White	July 14	July 14	Sept. 16
Richard Mandel	July 10	July 10	Sept. 16
Little America	July 6	July 6	Sept. 16
Marketeer	July 2	July 2	Sept. 16
Granite State	July 24	July 24	Sept. 23
Snow White	July 21	July 21	Sept. 23
Richard Mandel	July 17	July 17	Sept. 23
Little America	July 13	July 13	Sept. 23
Marketeer	July 9	July 9	Sept. 23
White Frick	July 5	July 5	Sept. 23
Granite State	July 31	July 31	Sept. 30
Snow White	July 28	July 28	Sept. 30
Richard Mandel	July 24	July 24	Sept. 30
Little America	July 20	July 20	Sept. 30
Marketeer	July 16	July 16	Sept. 30
White Frick	July 12	July 12	Sept. 30
Granite State	Aug. 7	Aug. 7	Oct. 7
Snow White	Aug. 4	Aug. 4	Oct. 7
Richard Mandel	July 31	July 31	Oct. 7
Little America	July 27	July 27	Oct. 7
Marketeer	July 23	July 23	Oct. 7
White Frick	July 19	July 19	Oct. 7
Granite State	Aug. 14	Aug. 14	Oct. 14
Snow White	Aug. 11	Aug. 11	Oct. 14
Richard Mandel	Aug. 7	Aug. 7	Oct. 14
Little America	Aug. 3	Aug. 3	Oct. 14
Marketeer	July 30	July 30	Oct. 14
White Frick	July 26	July 26	Oct. 14
White Jewell	Aug. 13	.....	Oct. 15
Christina	Aug. 17	.....	Oct. 20
Granite State	Aug. 21	.....	Oct. 25
Snow White	Aug. 25	.....	Nov. 1
Little America	Aug. 31	.....	Nov. 10
Richard Mandel	Aug. 31	.....	Nov. 10
Marketeer	Sept. 3	.....	Nov. 18
White Frick	Sept. 6	.....	Nov. 25
White Yuletide	Sept. 6	.....	Nov. 28
Cordova	Sept. 6	.....	Nov. 30
Margaret Moeller	Sept. 11	.....	Dec. 10
Smith's Late White	Sept. 13	.....	Dec. 15



Flowering Schedule (Continued)

POT PLANT VARIETIES

BRONZE

Variety	Last Pinching Date	Shading Date	Flowering Date
Alameda	June 30	June 30	Sept. 2
Glitters	June 30	June 30	Sept. 2
Apricot Queen	June 30	June 30	Sept. 2
Ivanhoe	June 30	June 30	Sept. 2
Alameda	July 7	July 7	Sept. 9
Glitters	July 7	July 7	Sept. 9
Apricot Queen	July 7	July 7	Sept. 9
Ivanhoe	July 7	July 7	Sept. 9
Alameda	July 14	July 14	Sept. 16
Glitters	July 14	July 14	Sept. 16
Apricot Queen	July 14	July 14	Sept. 16
Ivanhoe	July 14	July 14	Sept. 16
Gypsy	July 6	July 6	Sept. 16
Apricot Queen	July 21	July 21	Sept. 23
Ivanhoe	July 21	July 21	Sept. 23
Gypsy	July 13	July 13	Sept. 23
Red Rolinda	July 9	July 9	Sept. 23
Bronze Frick	July 5	July 5	Sept. 23
Apricot Queen	July 28	July 28	Sept. 30
Ivanhoe	July 28	July 28	Sept. 30
Gypsy	July 20	July 20	Sept. 30
Red Rolinda	July 16	July 16	Sept. 30
Bronze Frick	July 12	July 12	Sept. 30
Apricot Queen	Aug. 4	Aug. 4	Oct. 7
Ivanhoe	Aug. 4	Aug. 4	Oct. 7
Gypsy	July 27	July 27	Oct. 7
Red Rolinda	July 23	July 23	Oct. 7
Bronze Frick	July 19	July 19	Oct. 7
Apricot Queen	Aug. 11	Aug. 11	Oct. 14
Ivanhoe	Aug. 11	Aug. 11	Oct. 14
Gypsy	Aug. 3	Aug. 3	Oct. 14
Red Rolinda	July 30	July 30	Oct. 14
Bronze Frick	July 26	July 26	Oct. 14
Alameda	Aug. 21	.....	Oct. 25
Glitters	Aug. 25	.....	Oct. 28
Apricot Queen	Aug. 25	.....	Nov. 1
Ivanhoe	Aug. 25	.....	Nov. 1
Red Melba	Aug. 28	.....	Nov. 10
Gypsy	Aug. 28	.....	Nov. 15
Bronze Masterpiece	Aug. 31	.....	Nov. 15
Red Rolinda	Sept. 3	.....	Nov. 20
Bronze Frick	Sept. 3	.....	Nov. 25

PINK

Variety	Last Pinching Date	Shading Date	Flowering Date
Early October	July 6	July 6	Sept. 2
Justrite	July 6	July 6	Sept. 2
J. W. Prince	June 30	June 30	Sept. 2
Early October	July 13	July 13	Sept. 9
Justrite	July 13	July 13	Sept. 9
J. W. Prince	July 7	July 7	Sept. 9
Queen of Pinks	June 29	June 29	Sept. 9
J. W. Prince	July 14	July 14	Sept. 16
Queen of Pinks	July 6	July 6	Sept. 16
Thyra	July 6	July 6	Sept. 16
J. W. Prince	July 21	July 21	Sept. 23
Queen of Pinks	July 13	July 13	Sept. 23
Thyra	July 13	July 13	Sept. 23
Beautiful Lady	July 5	July 5	Sept. 23
Helen Frick	July 5	July 5	Sept. 23
J. W. Prince	July 28	July 28	Sept. 30
Queen of Pinks	July 20	July 20	Sept. 30
Thyra	July 20	July 20	Sept. 30
Beautiful Lady	July 12	July 12	Sept. 30
Helen Frick	July 12	July 12	Sept. 30
J. W. Prince	Aug. 4	Aug. 4	Oct. 7
Queen of Pinks	July 27	July 27	Oct. 7
Thyra	July 27	July 27	Oct. 7
Beautiful Lady	July 19	July 19	Oct. 7
Helen Frick	July 19	July 19	Oct. 7
J. W. Prince	Aug. 11	Aug. 11	Oct. 14
Queen of Pinks	Aug. 3	Aug. 3	Oct. 14
Thyra	Aug. 3	Aug. 3	Oct. 14
Beautiful Lady	July 26	July 26	Oct. 14
Helen Frick	July 26	July 26	Oct. 14
Early October	Aug. 13	.....	Oct. 10
Justrite	Aug. 17	.....	Oct. 15
J. W. Prince	Aug. 25	.....	Nov. 1
Thyra	Aug. 28	.....	Nov. 10
Queen of Pinks	Aug. 28	.....	Nov. 10
Masterpiece	Aug. 31	.....	Nov. 15
Helen Frick	Sept. 6	.....	Nov. 25
Beautiful Lady	Sept. 6	.....	Nov. 25
Riviera	Sept. 11	.....	Dec. 10

For prices on all varieties listed in this catalog, see pages 6-12 inclusive.

See index on inside back cover for any particular Mum you need.

All cuttings are in perfect condition before being accepted by the Express Company. Therefore, if there

is any damage enroute from being broken, heated, or frozen, call your express agent to inspect the same, marking on express receipt the condition of the package and amount of damage, etc. You must file claim, as our responsibility ceases when Express Co. accepts shipment. We cannot be responsible for the safe arrival of your cuttings.



Growing Mums (continued from page 15)

MUMS AS POT PLANTS

Nothing in pot plants is quite so satisfactory to our public as is the Mum in pot plant form. With plenty of bracing fall air they become well hardened, rarely failing to be satisfactory. Should a few fail to sell, the flowers can be cut down and used. Today's method of producing them thru planting 4-5 rooted cuttings or good small pot plants in a 5- or 6 in. pot in June or early July is more economical than the old procedure of starting earlier with an individual early started plant and building it up thru much pinching. Furthermore, the later start makes for greater compactness, and this is more than desirable, it is absolutely necessary in profitable pot plants of any kind, particularly Mums.

Regarding the type of pots used, it must be said that a compact nicely shaped plant is better set in the shallow pan type than in a regulation deep one. Perhaps for the latest planting the shallow ones will finish plants in excellent shape; but for the earlier start much watering and some feeding will be necessary if they are to be well finished in shallow pots. All points considered, better use the deep pots for full size plants. For the sake of uniformity when 3 or 4 plants are used in a pot, it should be some better to use started plants in small pots, for there might be some irregularity in the way cuttings get away. When the plants reach up 6-8 in. we top them back about half way down, later thinning the breaks to about the 2 or 3 strongest. After these breaks get well under way, they are again topped and this should be all the topping or pinching they will require; but growths that break out



Mum Pot Plant Anemone "Gypsy."

unduly must, for compactness and shape, be topped. It should also be remembered that the July planting will not call for as much topping as will the June start. Generally one topping will do. Furthermore, the later start will, of course, finish more dwarf. Also, cuttings available from the earliest topping can be rooted and used for late July potting, using 4-5 of them in a 6 in. pan or shallow pot. In fact, cuttings of late varieties can be potted late as early August. Last season we potted a few Granite State cuttings into 4 in. pots in August. With no pinching they made quite attractive little specimens with but one flower. With the larger flowered kinds that are naturally not tall there are possibilities along this line.

SOIL

Weather or climatic conditions, that vary everywhere, will call for variations of treatment and to meet them successfully the value of some experience comes in. A moderately heavy soil makes for compactness under all conditions, and this is helped along by what we should call moderately firm potting. This is demonstrated by some tall tree growth we have enjoyed in gravel culture, the kind we don't want in pot plants. Along with body, the soil should have some organic matter, plus concentrated fertilizer in balanced form. It is hazardous to say just how much for, to begin with, the analysis of most soils vary; but with plants in good vigorous growth or health we find that an occasional top dressing of a small spoonful of



Margaret Moeller, fine white pot plant variety.



ammonium sulphate has a beneficial effect on growth and color of foliage. Also, most soils or growth will respond to similar applications of such balanced material as Vigoro.

The best results with Mum pot plants is usually had in low, well ventilated houses; but after they become well started, or for at least 6 weeks of mid-summer, they can be moved outdoors to advantage. Not only does this exposure make for compactness, but if the watering is properly watched the outdoors makes for a harder and better character of growth. But chewing insects must be anticipated. By late August we like to see them indoors where they finish cleaner. The advantage of indoors for this can be well afforded with their wholesale price at as high as \$2.00. Since they require no artificial heat, well grown pot plants are profitable; and while they are something of a labor crop, most of it is summer work.

We have already referred to what can be done with pot plants by growing them in the open soil outdoors until early September. This of course calls for pinching them regularly. Their heavy root development sometimes makes it difficult to get them into a 6 in. pot without considerable disturbance and loss of lower leaves, but by keeping them close for some days we have produced fairly good plants that probably netted as much as the regular pot grown stock. With this plan avoid putting out large plants early to start with, for their tendency is to become overgrown. We have also lifted and sold early pompons in full flower to be planted out where more tender stock was destroyed by early frosts. Fall weather conditions are usually cool and moist enuf for the plants to stand this transplanting pretty well.

POT PLANT VARIETIES

In the past small flowering varieties were used almost exclusively. Today the largest standards are on the pot plant list, the following being popular: Ambassador, Blazing Gold, Friendly Rival, Marketeer, Sun Gold and Apricot Queen. When using such naturally tall growers, all the factors that make for compact growth should of course be made use of, including the later planting. But advantage should be taken of other attractive types, particularly the "disbuds" and those fine anemones and singles. The Caprice, buttons and pompons, seem the least called for by today's pot plant specialists. Probably the nearest to making an ideal pot plant is our Granite State. Flower size and form seem combined to make it ideal for this purpose. And note the foliage pushed right against the flower.

Rooted Cuttings

No cultural points under this heading, but there are economic ones that should be of interest. There are a



Our new "Granite State." The most outstanding white pot plant Mum to date.

number of questions to this phase of Mum growing that should be faced squarely. The prime one is, what does it cost us to produce rooted cuttings? or to get to the point, can we produce good cuttings for the price that we can buy good cuttings? In counting costs it might profit us to consider all costs involved. First, we will agree that a well exposed bed, preferably a raised one, is necessary for the stock plants, and that the bed will be occupied for about 6 months of winter. This fully covers a crop of Stocks or Snaps that should return 50-75c per sq. ft. Hard to estimate the cost of keeping them clean of insects, but it's something. The time spent getting cuttings in the sand and watching them thru the spring months is something too, especially since it comes during the most pressing months of the year, when some costly details are usually overlooked. Most of us lose some cuttings in the sand, and that adds some to costs, sometimes substantially. We should also consider the difficulty or advantage of having all the cuttings needed when we are ready to plant. That usually calls for more stock plants than we have. To have cuttings rooted—ready to plant when beds are ready is a considerable advantage as we have already pointed out. With a normal supply of stock plants this is not easily accomplished. Usually our planting stock is put in the sand at 2-3 different times and is in varying stages. Also, it sometimes happens that the most valuable varieties are the poorest cutting producers and more ordinary ones the freest—something of a natural law that we find in seed produced stock. In buying in one's stock we have the advantage of changing to only the best to be had; not carrying on old-timers because we have the stock.



After all the costs and disadvantages are computed, we sincerely believe that the grower whose planting is limited will be ahead of the game in buying his cuttings. Significant, too, is the fact that the bulk of the rooted Mum cutting business today is in the big orders of 50 to 100,000 lots. Some compromise on this question by buying part of their requirements early and getting top cuttings from them for later planting. This has the advantage of uniformity in the second planting and of clean stock thruout. However you decide to settle this question, the advantage of early ordering should be appreciated. Not only does it give us a chance to prepare for varieties most wanted, but early orders stand the best chance of being filled complete, as; and when wanted.



Picturing our method of packing Mum Cuttings.

Mums Every Month

It is true we have Roses, Carnations, etc. most every month and enjoy them, but Mums are in a different category. They not only seem more fittingly a fall and early winter flower, but, for this reason we wonder if our public will accept them thru their natural season with the zest they now do if they are before them continuously. Furthermore, flowering them out of season adds something to their normal cost, and under high temperatures some large ones, as we well know, are soft and tend to rot, and to lose their strong color. But some feel that there are pros as well as cons to this question. As a novelty in limited quantities they may be profitable. Besides, we are anxious to give the public whatever it wants and will pay for. In presenting the other side, we realize that it should be done by those who are all for them all the time. Our colleges are making a valuable contribution to this subject, and their ideas on it follow by our "Vic".

The Details

Even more closely than with fall Mums, you must follow the rules of this winter Mum plan—dates, temperature, pinching, etc. To bring a bench into flower in mid-January, you must:

- a. Bench rooted cuttings: October 1. Cuttings and stock plants used must have been given additional light to prevent premature buds. We are able to supply cuttings "off season" so treated.
- b. Pinch both Mums and Poms: October 15. Remove only growing tip.

- c. Light: from October 1 to November 15, from midnight to 4 A.M. Use 60 watt lamps 6 x 6 ft., 3 ft. above plants.

- d. Temperature: 60 degrees night, 67-70 degrees days. Never below 60.

- e. Diseases: Use verticillium free (cultured) stock only. Our cuttings are all from cultured strains. Use colloidal sulfur if mildew appears.

- f. Insects: $\frac{1}{4}$ gram sodium selenate per sq. ft. 3 weeks after benching (midge). For thrip, roller, use DDT.

- g. Culture: Add nitrogen when soil tests below 15 ppm; keep phosphates and potassium at medium levels Spurway. Keep soil uniformly moist; never above 3 inches on Cornell tensiometers.

This January flowering is the hardest; low sunlight at that time washes out many colors. If you succeed in January very likely you can bring them in any other time. Ken Post at Cornell has a fine table giving necessary dates etc. for flowering crops during any of the twelve months.

Here's the schedule as worked out at Cornell for a Mothers' Day crop; quite different. On these spring plantings you must light the crop in early stages to hold off buds, then as desired flowering date approaches you must shade to induce bud formation:

- a. Bench rooted cuttings: January 15.
- b. Apply light: January 15. Same light bulbs etc. as for winter crop. Also same requirement on lighting stock plants and cuttings prior to benching; otherwise you'll get early buds.



c. Pinch: February 1.

d. Lights off: March 1.

e. Shade: March 25 until nearly ready to cut. Shade 5 P.M. to 7 A.M. No pinholes in cloth; better double up on old sateen.

f. Flower first half of May.

On varieties, generally whites and yellows stand up well in mid-winter, whereas bronzes and pinks are apt to fade. See our "Grower Talks" for detailed comment on varieties (July 1946 and subsequent issues as more information is available).

Those desiring rooted cuttings off season are advised to get requirements in early as possible.

How about California and Florida? Offhand, it would seem as tho 60 degree minimum temperature would rule out most of the west. Any considerable cold spell will interfere with bud setting. Florida would seem more favored in this respect; however, the disease problem would be aggravated under the high humidity conditions of shading. Also, it *does* go below 60 degrees even in Miami—in spite of the Chamber of Commerce! So the west and the south are, for the time being, an uncertainty. Meanwhile, several eastern growers are reported to be making off-season plantings for the coming season. Their experience will mean a lot.

Vic Ball

DEPENDABLE SUPPLIERS

Every grower knows from experience that the very nature of the business of propagating and shipping cuttings involves some uncertainties. This is particularly true of those selling their surplus or whose facilities are not extensive. The very active demand of the war years has made this more or less true with all propagators due to the labor situation. Unfortunately, it has not been possible to greatly improve this situation the past season; but we have reasons to believe that it will be bettered substantially the coming year. However the uncertainty of demand for varieties will always leave it impossible to unfailingly fill all orders 100%. Our propagators are the largest and best equipped to supply rooted Mum cuttings; but it must be admitted that orders placed early stand the best possible chance of being completely cared for. Should you unexpectedly require more late in the season, we will do our utmost to take the best possible care of you.

Picturing various steps in our efficient production of rooted Mum cuttings.

Top: Sticking cuttings. Note that holes are made beforehand by a large wooden block with projecting spikes.

Center: Watering is uniformly done by overhead sprinklers

which insure a thorough job.

Bottom: Cuttings are packed to your individual order as they come from the propagating bench. Operations like these mean cuttings of uniform size from one propagation; distinct advantages to any grower.





A field of Croft Lilies grown for Geo. J. Ball, Inc. in a picturesque setting among the coastal hills of southwestern Oregon.

Lilies

Croft

Our strain of Croft Lilies is the best produced on the west coast. Our men out in the Oregon section have been growing these Lilies ever since the Croft Lily business was in its infancy. They have continuously rogued and re-selected their plantings each year until the quality of this wonderful pot plant Lily is uniformly high. They are packed in the following size cases.

Size 7-8	250 Bulbs to case
Size 8-9	200 Bulbs to case
Size 9-10.....	150 Bulbs to case
Size 10-up.....	100 Bulbs to case

Have us reserve the quantity of cases you will need for your planting next fall (1947). Our 7-8 size produce a very satisfactory number of blooms per bulb. Full cultural directions with every order.

Creole Lilies

This strain is well grown; carefully rogued.		
Size 6-7	400 Bulbs to case	
Size 7-9	300 Bulbs to case	
Size 8-10.....	250 Bulbs to case	
Size 9-11.....	200 Bulbs to case	
Size 10	150 Bulbs to case	

PEERLESS LILIES

Excellent for cutting; plant from October 1st on.		
Size 6½-8	200 Bulbs to case	
Size 8-10.....	150 Bulbs to case	

REGALE LILIES

Well grown Northwest Bulbs		
Size 6-7	250 Bulbs to case	
Size 7-8	250 Bulbs to case	
Size 8-9	200 Bulbs to case	
Size 9-10.....	100 Bulbs to case	

Write us for a complete list of other Lilies and American grown Daffodils, Iris, Freesias, Callas, Anemones, Ranunculus, Amaryllis, Gladioli, etc.



Dutch Bulbs

Delivery Fall 1947

The increasing demand for Tulips, Hyacinths, Daffodils, etc. shows how happy the American public is to have these old favorites available for their gardens and homes.

We have arranged to have shipped to us each fall a supply of these bulbs from the very best producers in Holland—These will be packed to your order and shipped directly to you immediately on their arrival in the country.

Below is a list of the most popular Holland bulbs in the various colors and types, suitable for Florist use. Order varieties not listed, if you prefer them, if they are grown in Holland and we can secure them for you.

HYACINTHS

SPECIALLY PREPARED HYACINTHS

Orders for this stock must reach us before May 1st.
 Sizes 19-up 18-19 17-18 14-15

- Bismarck.** Deep porcelain blue.
- Dr. Lieber.** Porcelain blue.
- Gertrude.** Rosy pink.
- L'Innocence.** Pure white.
- Nic. Dames.** Deep Pink, large flower, strong stem.
- Nimrod.** Bright pink.
- Pink Pearl.** Rosy pink, compact spike.

REGULAR HYACINTHS

- Top Size (Exhibition) 19-up
- 1st Size (Extra Selected) 18-19
- 2nd Size (Selected Forcing) 17-18
- 3rd Size (Selected Bedding or Forcing) 15-16
- 5th Size (Selected Miniature) 14-15

RED AND PINK

- Gertrude.** Rosy pink, compact spike.
- Lady Derby.** Light pink, large bells, forces easily.
- La Victoire.** Rosy red, large well shaped spike, forces early.
- Marconi.** Bright pink, broad spike, beautiful flower, highly recommended for forcing and bedding, late.
- Nic. Dames.** Deep pink, large flower, very early.
- Pink Pearl.** Rosy pink, compact spike, very early.
- Queen of the Pinks.** Bright rosy pink, large compact spike.

PURE AND BLUSH WHITE

- L'Innocence.** Pure white, well formed broad spike. Early and excellent for forcing, also recommended for bedding.
- Queen of the Whites.** Pure white, large compact spike.

BLUE AND LILAC

- Bismarck.** Deep porcelain blue, large broad spike, forces early.
- Dr. Lieber.** Porcelain blue, large well formed spike, recommended for early forcing.
- Grand Maitre.** Deep porcelain blue, large spike.
- Lord Balfour.** Purple lilac, forces early.
- Perle Brilliant.** Clear porcelain blue.
- Queen of the Blues.** Light blue with silvery appearance, large spike. Excellent for forcing and bedding.

YELLOW AND ORANGE

- City of Haarlem.** Bright golden yellow, large spike. The finest yellow Hyacinth.
- Yellow Hammer.** Golden yellow, good for forcing.

TULIPS

Are furnished in two sizes only—
 12-up and 11-12 CC

EARLY SINGLE TULIPS

- Brilliant Star.** Scarlet, dark center, fine for early forcing.
- Couleur de Cardinal.** Scarlet, purple shaded, large fine shaped flower with strong stem. Fine for forcing and bedding.
- General de Wet.** Yellow, flushed with orange, large flower, fine for forcing and bedding. Sport of Prince of Austria.
- Keizerskroon.** Red with broad yellow edge, large flower, fine for bedding and late forcing.
- Madame Gevers.** (Herman Schlegel Maximus), sulphur yellow, large flower. Sport of LaReine Maxima.
- Mon Tresor.** Golden yellow, fine large flower, specially recommended for early forcing.
- Prince of Austria.** Bright orange scarlet, large flower, sweet scented, fine for forcing.
- Sunburst.** Yellow, flushed red.
- Vermilion Brilliant.** Vermilion, large flower, forces early.
- White Hawk.** Pure white, large flower, good forcer.

EARLY DOUBLE TULIPS

- Couronne D'or.** Yellow, tinged orange. One of the best double Tulips for forcing in January.
- El Toreador.** Orange red, lighter towards the edge, early.
- Marechal Niel.** Golden yellow, shaded with orange red. Sport of Murillo.
- Mr. Van Der Hoef.** Pure yellow. Sport of Murillo.
- Orange Nassau.** Orange red. Sport of Murillo.
- Peach Blossom.** Deep pink. Sport of Murillo.
- Schoonoord.** The finest double white Tulip for forcing.
- Triumph (Triumphator),** deep pink. Improved Peach Blossom.
- Murillo Sports Mixed.**

COTTAGE TULIPS

- Advance.** Poppy-red with silvery shade on outside of petals, very large flower.
- Albino.** Pure white, large flower, strong stem, good for forcing.
- Carrara.** Pure White, good for forcing.
- Golden Harvest.** Lemon yellow, large flower, good for forcing.
- Inglescombe Yellow.** Pure yellow.
- John Scheepers.** Yellow, very large flower.
- Mothersday (Lemon Queen),** light yellow, good for forcing.
- Themis.** Pure White.
- Wallstreet.** Lemon yellow, good for forcing.



Dutch Bulbs (Continued)

TULIPS

DARWIN TULIPS

- Aristocrat.** Satiny pink, light towards the edge, large flower on tall strong stem, new.
Bartigon. Cochineal red, strong stem, large flower. One of the best red Darwin Tulips for forcing.
Campfire. Dazzling scarlet. Sport of Bartigon.
Niphetos. Lemon yellow, new.
Pride of Zwanenburg. Salmon pink, lighter towards the edge.
Princess Elisabeth. Bright pink, strong stem.
Rose Copland. Lilac rose. Sport of Wm. Copland.
Sunkist. Golden yellow, large flower of splendid form.
The Bishop. Violet blue, large flower, tall stem.
Utopia. Bright red, large flower, new.
William Copland. Lavender. Early forcer.
William Pitt. Glowing red, recommended for early forcing.
Zwanenburg. Ivory white, large flower, fine for forcing.

MENDEL TULIPS

- Brightling.** Salmon orange.
Early Queen. Satiny pink, forces Christmas time.
Hildegard. Dazzling scarlet, strong stem. One of the earliest.
Krelage's Triumph. Deep red, strong stem, forces January 1st.
Pink Gem. White with pink edge, large flower.
Queen Augusta. Deep apple blossom, forces middle of January.
Scarlet Admiral. Bright red, large flower, forces in February.
Scarlet Wonder. Orange red, forces beginning of January.
Sultane. Rosy Red, good for forcing end of January.
Weber. Opens white changing into pink, large flower, strong stem. Forces end of January.
White Sail. White, forces end of January.
Zenith. Deep rose pink, large flower, forces in February.

PARROT TULIPS

- Blue Parrot.** Clear lilac blue. Sport of Bleu Aimable.
Red Champion. Cochineal red. Sport of Bartigon.

TRIUMPH TULIPS

- Alberio.** Deep wine red, early forcer.
Crater. Deep carmine red, large flower.
Edith Eddy. Carmine red, lightly edged white, good for forcing the middle of January.
Elizabth Evers. Fuchsia pink, large flower, forces middle of February.
Korniforos. Crimson red, large flower, strong stem, forces middle of February.
Telescopium. Reddish violet, to the base violet blue, early and easy forcer, large flower of great substance.

TULIPA SPECIES

- Madame Lefeber.** Vermilion red, enormous flower,

On these two pages is a list of some of the most popular Dutch Bulbs. We can furnish you any other variety grown in Holland. We can quote you definite prices as soon as they are established.

DAFFODILS

JUMBO—DN No. 1—DN No. 2 TRUMPET DAFFODILS

- Golden Harvest.** Golden yellow throughout, very large well shaped flower, highly recommended for early forcing.
King Alfred. Clear yellow throughout. The finest yellow.
Magnificence. Golden yellow. One of the earliest Daffodils.
Mrs. E. H. Krelage. Perianth white, trumpet creamy white.
Pride of Hillegom. Creamy white perianth. Bright yellow trumpet, good forcer.
Rembrandt. Golden yellow throughout, well formed flower, early forcer.
Spring Glory. Perianth white, trumpet yellow, early forcer.
Wrestler. Yellow, good for early forcing.

BARRI NARCISSUS

- Firetail.** Ivory white perianth with orange red cup, tall stem.
Lady Moore. Perianth white, cup yellow edged orange.
Mrs. Barclay. Ivory white, cup yellow with orange red edge.

DOUBLE DAFFODILS

- Daphne.** Pure white. The double Poeticus Ornatus.
Van Sion. The well known double golden yellow Daffodil.

LEEDSII NARCISSUS

- Daisy Schaffer.** Perianth white, creamy cup.

POETAZ NARCISSUS

- Cheerfulness (double Poetaz Elvira).** White with yellow petals in the center.
Early Perfection. Lemon yellow, very free flowering. One of the earliest Poetaz Narcissus for forcing.
Geranium. Perianth white, cup orange red.
La Fiancee. White perianth, orange cup, very early.
Laurens Koster. Pure tall white with yellow cup.
L'Innocence. White perianth, yellow cup, free flowering.
Winterpride. White with orange cup, very early.

INCOMPARABILIS DAFFODILS

- Carlton.** Clear yellow throughout, large well shaped flower.
Fortune. Perianth yellow with deep orange cup, early forcer. The best Incomparabilis in existence.
Havelock. Clear yellow throughout, very large well shaped flower.
Helios. Perianth sulphur, cup bright orange, free flowering.
John Evelyn. Creamy white perianth, orange cup.
Yellow Poppy. Sulphur yellow throughout, large flower.

POETICUS NARCISSUS

- Actaea.** Pure white perianth and scarlet cup, very large flower.
Ornatus Maximus. Perianth pure white, cup yellow edged deep red, recommended for early forcing.

CROCUS

- Baron Brunow.** Bright purple blue.
King of the Whites. Snow white, large flower.
Mont Blanc. Pure white. The most popular white variety.
Navy Blue. Clear blue, large flower.
Purpurea Grandiflora. Bright purple. The largest of the purple varieties.
Remembrance. Purple blue.
Snowstorm. Pure white, large flower.
Striped Beauty. Blue white striped.
Large Yellow.

Carnations

Delivery Winter 1946-47

The demand for carnation cuttings is still exceptionally heavy, but we are booking orders for all varieties listed for January and later delivery.

Your order will be accepted and filled in rotation, but no specific delivery date will be promised. All orders acknowledged will be shipped between January through March, 1947.

Minimum amount of any one variety is 100 cuttings. Cuttings are shipped by Railway Express collect or air freight—air express if requested. None shipped C.O.D.

Our responsibility ceases when delivery is made to the Transportation Co. All claims for stock damaged in transit must be made direct to the carrier delivering shipment.

New and Recent Introductions

	PRICE PER	
	100	1000
White Briry —Fine sport of John Briry. A winner at last year's carnation show.....	\$15.00	\$125.00
Spirit of St. Louis —Restricted until Dec. 1949. An early, long stemmed variety of the Virginia color, producing a heavy continuous crop	17.50	150.00
Chalfant —A very good deep Pink. Introduced by Peter Hellberg of Chalfant, Penna. Good color, good size—looks like a winner.....	20.00	150.00
Olympic —Restricted until Dec. 1948. A strong growing crimson seedling, color of Mrs. C. W. Weld, flowers about the size of King Cardinal, good shipper and keeper.....	20.00	150.00
Red Charm —Restricted until May 1948. A good Red sport with all the fine qualities of its parent	20.00	150.00
Victory Red —An improved King Cardinal.....	12.00	100.00
Georgia —A new white variegated with Pink	12.00	100.00

Standard Varieties

White

	ROOTED CUTTINGS PRICE PER	
	100	1000
Arundel —Similar in form to Olivette. Many growers prefer it to Olivette.....	12.00	100.00
Northland —(Patented). A large fragrant white. It was well liked last year.....	20.00	150.00
Casablanca —(Patented). Large, fragrant, stiff stems	25.00	200.00
Olivette —One of the better whites. It is noted for steady winter production, symmetrical and spicy flowers, and sturdy medium length stems	8.50	75.00
White Peter Fisher —White sport of Peter Fisher, having some characteristics as its parents except for color	8.50	75.00
Puritan —Very prolific white on lengthy stems. Best grown in a cool house.....	8.50	75.00

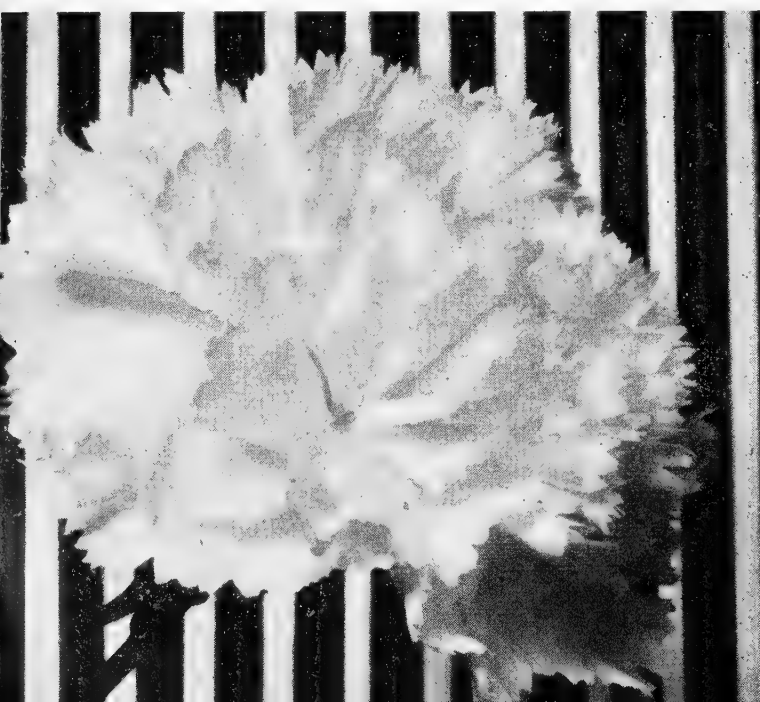
Light Pink

Virginia Supreme —A better Virginia.....	15.00	125.00
Hercules Virginia —Giant light pink sport of Virginia, having the growing qualities of its parent	15.00	125.00
Virginia —Noted for its steady winter production, lack of splitting and its clean stems which require very little disbudding.....	8.50	75.00
St. Louis Pink —Excellent free flowering pink..	8.50	75.00

Salmon Pink

Salmon Virginia . A good salmon sport of Virginia	12.00	100.00
Charm —(Patented). A quality salmon-pink. Stems are long and sturdy, the flowers large, and the calyx is strong.....	20.00	150.00
Pollyanna —(Patented). A steady winter producer of average length—sturdy stems. A good keeper	15.00	125.00

In addition to the varieties listed, we can furnish some of the older kinds. If you need any carnation not listed write us the quantity you need, we may be able to secure it for you.



Carnations

Delivery Winter 1946-47

Standard Varieties (Continued)

Medium Pink

	PRICE PER	
	100	1000
Dorothy Napier —(Patented). The flowers are large and very full, and the Calyx does not split. Production compares favorably with all varieties of this color and quality.....	20.00	150.00
Peter Fisher —Well known for its profitable productiveness and clear fringed pink flowers	8.50	75.00
Pink Treasure —(Patented). A medium or rose pink flower of large size and full appearance	15.00	125.00
Rosalie —(Patented). A very excellent Carnation when well grown. The flowers are medium to large, similar in color to the old Ward and good keepers	20.00	150.00
Virginia Rose —Well liked whenever Virginia is popular. It is much deeper in color than its parent, but lighter in color than Ward. Very uniform in production and quality, an excellent keeper	8.50	75.00

Dark Pink

Virginia Miller —The dark pink Virginia.....	15.00	125.00
Dark Pink Fisher —Similar to Peter Fisher from which it sported. Color is a good dark pink and does not fade in Spring.....	8.50	75.00
John Briry —One of the brightest dark pink Carnations now grown. It is a first quality flower but not a heavy producer. Does best for Spring flowers	8.50	75.00

Red

	ROOTED CUTTINGS PRICE PER	
	100	1000
No. 16 Red —Color same as King Cardinal. Quality far superior	15.00	125.00
William Sims —(Patented). Vivid red seedling	20.00	150.00
King Cardinal —(Patented). A consistently good variety with a production record that is as glowing as its flower is appealing.....	12.00	100.00
Tom Knipe —(Patented). The flower is very full and large with serrated petals. The calyx does not split. It propagates easily, produces well and grows well.....	20.00	150.00

Crimson

Seth Parker —(Patented). Rich bright crimson. The flowers are larger than other varieties in this class, stems excellent, splitting unknown. Flowers can be harvested for the Christmas season	20.00	150.00
Mrs. C. W. Weld	12.00	100.00

Yellow

Miller's Yellow —The best yellow.....	12.00	100.00
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Miscellaneous

Pelargonium —The color is a mottled effect of crimson-wine on a white base; the blooms are large and the stems average length with strength to carry the flowers gracefully	12.00	100.00
Scarlet King —A sport of Pelargonium with more vigor and brighter lighter coloring....	12.00	100.00

Ball Better Bands for Carnations

Here's why hundreds of satisfied growers say these high quality, wire-stitched, wood veneer plant bands can't be equalled (See cut at right) ● Easy to open; comes completely assembled ● Easy to fill; lots faster than small pots one at a time ● Transplanting insurance; plants take hold more quickly and with less loss ● Better growth; a band holds more soil than a pot of equal size—no root binding ● Uniform moisture; close fitting wood bands dry out less rapidly than clay pots but they don't keep plants overwet as do bands made of airtight, waterproof materials—remember, plant roots must breathe.

Our factory is now in full production, but demands this season may again exceed supply. Get your next season's bands on hand now. Lumber shortages are almost certain to mean higher prices later. Write for cultural directions on growing Carnations.





Instructions for Ordering

Each year we try to improve the high quality of our disease-free Mum cuttings, as well as the service we give the florist.

This catalog contains valuable cultural directions for the growing of Mums, both inside the greenhouse and outside under shade cloth.

We have arranged to furnish more cuttings, better grown, better packed, and delivered to you at just the time you desire to plant them.

TERMS OF SALE

1. The minimum total order that can be accepted is 500 cuttings.
2. Fifty of each variety is the minimum that can be supplied.
3. More than 50 of a variety must be in multiples of 50.
4. The minimum number of cuttings of a variety that can be supplied in unrooted cuttings is 250.

Orders must be marked with a definite delivery date, such as February—Late March—May 10th—etc. Orders marked "Early Delivery"—"Deliver when ready"—"Spring Delivery" are too indefinite. Give us the approximate time when you can use these cuttings, and we will ship them at this date if you order early.

Changes or cancellations on your order must be received at least 30 days before shipping time.

In making out your order please use special alphabetically arranged order blank enclosed with this catalog.

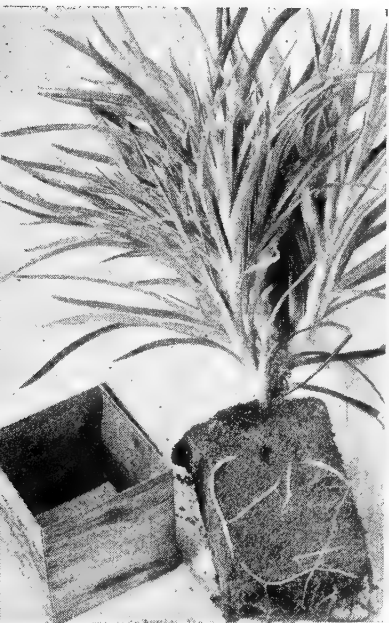
SUBSTITUTIONS

We will substitute varieties as good or better for any items not listed in this catalog unless order is marked NO SUBSTITUTIONS.

SHIPPING INFORMATION

Special shipping instructions and address if different from your regular mail address should be shown on your order. All cuttings are shipped Railway Express Collect or Air Freight or Air Express and are in perfect condition before being accepted by the Express Company. Therefore, if there is any damage enroute from being broken, heated, or frozen, *call your express agent* to inspect the same, marking on express receipt the condition of the package and amount of damage, etc. *You must file claim*, as our responsibility ceases when Express Co. accepts shipment. We cannot be responsible for the safe arrival of your cuttings.

We, Geo. J. Ball, Inc., give no warranty, express or implied, as to the productiveness of any seeds, bulbs or plants we send out and we will not be in any way responsible for the crop. Our liability, in all instances, is limited to the purchase price of the seed, bulbs, or plants.



WOOD BANDS ARE AVAILABLE

All Ball Wood Veneer bands are now wire stitched with 2 staples, and treated with a time tested, harmless wood preservative to prevent decay in wet soil. This treatment will positively not injure tenderest plants in any way. Our Bands are all made of clean, first grade wood veneer, and are not to be confused with the cheap bands that fall apart when plants are ready to handle.

Yes—these Wood Veneer Bands are available in any quantity now—for those who *order early*. This means that all the advantages of Wood Bands can be yours again; no longer is it necessary to put up with makeshift substitutes.

**BALL BETTER
PLANT
BANDS**

Prices on our BETTER BALL Plant Bands

Prices given are *F.O.B. our Factory in Chicago* and are subject to change without notice. Be sure to specify which way to ship, Express or Freight.

Size	Price per 1000	Wt. per 1000	Size	Price per 1000	Wt. per 1000
1 3/4 x 1 3/4 x 2 1/2	\$4.30	19 lb.	3 x 3 x 3	\$6.10	38 lb.
2 x 2 x 2 1/2	4.80	24 lb.	3 x 3 x 4	7.00	44 lb.
2 x 2 x 3	5.10	25 lb.	4 x 4 x 3	6.90	45 lb.
2 1/2 x 2 1/2 x 2 1/2	5.25	27 lb.	4 x 4 x 4	8.20	63 lb.
2 1/2 x 2 1/2 x 3	5.35	33 lb.			

QUANTITY	1,000 to 9,000 net
DISCOUNTS	10,000 to 24,000 5%
	25,000 to 49,000 7 1/2%
	50,000 to 100,000 10%

Write for discounts on larger quantities.

BIRD FIBRE PLANT BANDS

Sold in units of 1000 only	1 3/4 x 1 3/4 x 2 1/2	2 x 2 x 2 1/2	2 x 2 x 3	2 1/2 x 2 1/2 x 2 1/2	3 x 3 x 3	3 x 3 x 4
VITA-BANDS	4.25	4.70	5.05	5.20	6.30	7.35
GROWTEX	2.90	3.25	3.75	4.15	4.55	5.90

BIRD NEPONSET FLOWER POTS

Sold in units of 1000 only	2"	2 1/4"	2 1/2"	3"	3 1/2"	4"	5"	6"
RED	6.00	6.00	6.10	6.85	9.15	10.40	13.30	16.90
GREEN	8.75	8.75	9.40	10.60	14.05	16.55	28.85	29.30

Lilies

Daffodils

Dutch Iris

November
1946

Quality Plants for Growing On

POINSETTIA STOCK PLANTS

Subject to Prior Sale

DELIVERY APRIL '47

		Jumbo	No. 1	No. 2	No. 3	No. 4	No. 5
Albert Ecke Variegated Ruth Ecke Ecke's White	Price per 100	\$100.00	\$80.00	\$60.00	\$50.00	\$35.00	\$25.00
Mrs. Paul Ecke Oak Leaf Ruth Ecke Star of Werder Double Henriette Ecke Barbara Ecke St. Louis Pink	Price per 100	95.00	70.00	50.00	35.00	25.00	20.00
Indianapolis Red	Price per 100	Large \$150.00	Medium \$100.00		Small 1 Year \$50.00		

F.O.B. Eastern cities c/o Railway Express Agency.

On orders placed after January first, a ten per cent packing charge will be made.

2 1/4" GERANIUMS 2 1/4"

Available Now and Later

Olympic Red	Red Fiat
Radio Red	Salmon Supreme
Imp. Ricard	Fiat
Sensation	Mme. Landry
Better Times	Madonna

Heavy well grown stock—Limited Supply
Order at once

Price \$15.00 per 100 \$125.00 per 1000

2 1/4" BEGONIAS 2 1/4"

Delivery November and Later

Adeline	Ball Red
Luminosa Compacta	

Price \$8.00 per 100 \$75.00 per 1000

PRIMULA MALACOIDES

Fine, heavy transplants equal to 2 1/4 in.

Mrs. Eriksson. Very deep rose.
Glory of Riverside. Salmon pink.
All Varieties assorted

\$60.00 per 1000. Minimum order 250 plants.

PRIMULA OBCONICA

Fasbender's Red	Mueller's Rose
Heavy 2 1/4" Plants	

\$10.00 per 100 \$90.00 per 1000



Mum Cutting Order

Date _____

Terms _____

SALESMAN _____

If you would like your order divided in several shipments show largest number of cuttings you can handle in one shipment.

Rec'd _____

Ck. _____
M. O. _____

C. O. D. _____

Chg. _____

Remittance Enclosed _____

\$ _____

FIRM
NAME _____

Please Use Same Firm Or Greenhouse Name On All Orders to Avoid Confusion on our Records

Special shipping instructions and address if different from your regular mail address. All cuttings are shipped Express Collect unless otherwise arranged for.

STREET OR R. F. D. _____

CITY AND STATE _____

Rooted ☐

Unrooted ☐

Show below specific date on which you wish shipment to be made. This is important.

We, Geo. J. Ball, Inc., give no warranty, express or implied, as to the productiveness of any seeds, bulbs or plants we send out and we will not be in any way responsible for the crop. Our liability, in all instances, is limited to the purchase price of the seed, bulbs, or plants.

Quan.	Variety	Price	Amt.	Quan.	Variety	Price	Amt.	Quan.	Variety	Price	Amt.
.....	Adelaide	40.00	.....	.....	Catherine	40.00	.....	.....	Glitters	40.00	.....
.....	Alameda	40.00	.....	.....	Cavalcade	40.00	.....	.....	Gold Coast	70.00	.....
.....	Albatross	40.00	.....	.....	Celestra	40.00	.....	.....	Gold Lode	40.00	.....
.....	Allegro	90.00	.....	.....	Chattanooga	40.00	.....	.....	Goldsmith	40.00	.....
.....	Ambassador	40.00	.....	.....	Chicago Pearl	40.00	.....	.....	Golden Emblem ..	90.00	.....
.....	Anaconda	50.00	.....	.....	Christina	40.00	.....	.....	Golden Glory	40.00	.....
.....	Apricot Queen	40.00	.....	.....	Cincinnati	40.00	.....	.....	Golden Herald	40.00	.....
.....	Apricot Valencia ..	50.00	.....	.....	Citronella	40.00	.....	.....	Golden Jane	50.00	.....
.....	Arcadia	40.00	.....	.....	Cordova	40.00	.....	.....	Golden Mistletoe ..	40.00	.....
.....	Argo	70.00	.....	.....	Crystal Jewel	40.00	.....	.....	Golden Mrs. Ross ..	40.00	.....
.....	Avalanche	50.00	.....	.....	Dk. Pk. Bulkeley ..	40.00	.....	.....	Golden October	40.00	.....
.....	Aviator	90.00	.....	.....	Dk. Pk. Jewell	40.00	.....	.....	Golden Pearson	40.00	.....
.....	Barbara Cumming ..	40.00	.....	.....	Dk. Pk. Norma	90.00	.....	.....	Golden Spray	40.00	.....
.....	Barcarole	90.00	.....	.....	Dk. Pk. Orchid .....	.....	.....	.....	Golden Surprise ..	50.00	.....
.....	Beautiful Lady	40.00	.....	.....	Queen	90.00	.....	.....	Good News	40.00	.....
.....	Betsy Ross	40.00	.....	.....	Dk. Pk. Supreme ..	40.00	.....	.....	Granite State	90.00	.....
.....	Bittersweet	90.00	.....	.....	Dk Pk. Valencia ..	40.00	.....	.....	Gypsy	40.00	.....
.....	Blanche	40.00	.....	.....	Debonair	90.00	.....	.....	Harvester	90.00	.....
.....	Blazing Gold	40.00	.....	.....	Dec. Glory Large ..	40.00	.....	.....	Has. Gold	40.00	.....
.....	Bonnaffon LeLuxe ..	40.00	.....	.....	Dec. Glory Pom	40.00	.....	.....	Has. Pink	40.00	.....
.....	Brocade	90.00	.....	.....	Dec. Gold	40.00	.....	.....	Helen Frick	40.00	.....
.....	Br. Buckingham ..	40.00	.....	.....	Dec. White	70.00	.....	.....	Helios	40.00	.....
.....	Br. Bulkeley	40.00	.....	.....	Derigold	40.00	.....	.....	Hilda Bergen	40.00	.....
.....	Br. Daisy	40.00	.....	.....	Detroit News	40.00	.....	.....	Imp. Dec. Beauty ..	40.00	.....
.....	Br. Frick	40.00	.....	.....	Dorothy Turner ..	40.00	.....	.....	Imp. Tobin's Yel ..	40.00	.....
.....	Br. Goldsmith	70.00	.....	.....	Early Bronze	40.00	.....	.....	Imp. Yel. Chatt. ..	40.00	.....
.....	Br. Izola	40.00	.....	.....	Early October	70.00	.....	.....	Ind. Bronze	40.00	.....
.....	Br. Masterpiece	40.00	.....	.....	Early Wonder	40.00	.....	.....	Ind. Pink	40.00	.....
.....	Br. Mistletoe	40.00	.....	.....	Early Yellow	40.00	.....	.....	Ind. White	40.00	.....
.....	Br. Orchid Queen ..	40.00	.....	.....	Ed. Seidewitz	40.00	.....	.....	Ind. Yellow	40.00	.....
.....	Br. Supreme	40.00	.....	.....	Enchantress	40.00	.....	.....	Indianola	40.00	.....
.....	Burgundy	40.00	.....	.....	Europa	40.00	.....	.....	Indian Summer ..	40.00	.....
.....	Caliph	40.00	.....	.....	Fire Bird	40.00	.....	.....	Irene	40.00	.....
.....	Cameo	40.00	.....	.....	Freida	40.00	.....	.....	Isobel	40.00	.....
.....	Capt. Cook	40.00	.....	.....	Friendly Rival	40.00	.....	.....	Ivanhoe	90.00	.....
.....	Cardonia	40.00	.....	.....	Garnet King	40.00	.....	.....	Ivory Snow	70.00	.....
.....	Carnelia	40.00	.....	.....	Garza Supreme	40.00	.....	.....	Jane	40.00	.....
.....	Carolyn Yosick	90.00	.....	.....	Gladys Pearson	40.00	.....	.....	Jean Cumming	40.00	.....
.....	Cassandra	50.00	.....	.....	Gleam	40.00	.....	.....	Jean Elizabeth	40.00	.....

Prices on Unrooted Cuttings \$12.50 per 1000 less than above list.

Turn over for balance of list

Quan.	Variety	Price	Amt.	Quan.	Variety	Price	Amt.	Quan.	Variety	Price	Amt.
.....	Jean Treadway	40.00	.....	.....	Pink Chief	40.00	.....	.....	Susanne Miller	40.00	.....
.....	Jemima	40.00	.....	.....	Pink Dot	40.00	.....	.....	Sylvanna	70.00	.....
.....	Jessie	40.00	.....	.....	Pink Izola	40.00	.....	.....	Thanks, Pink	40.00	.....
.....	Jewell	40.00	.....	.....	Pink Mistletoe	40.00	.....	.....	The Titan	40.00	.....
.....	Judith Anderson	40.00	.....	.....	Pink Pearl	40.00	.....	.....	Thyra	40.00	.....
.....	Justrite	40.00	.....	.....	Pk. Treasure Is.	40.00	.....	.....	Uneeda	40.00	.....
.....	J. W. Prince	40.00	.....	.....	Pink Turner	40.00	.....	.....	Usona	40.00	.....
.....	King Midas	40.00	.....	.....	Pinocchio	90.00	.....	.....	Uvalda	40.00	.....
.....	Lakme	90.00	.....	.....	Pixie	50.00	.....	.....	Uvalda	40.00	.....
.....	Lavender Lady	50.00	.....	.....	Pomponette	40.00	.....	.....	Valencia	40.00	.....
.....	Legal Tender	40.00	.....	.....	Princeton	40.00	.....	.....	Vesper	50.00	.....
.....	Lillian Doty	40.00	.....	.....	Priscilla	70.00	.....	.....	Vibrant	40.00	.....
.....	Little America	40.00	.....	.....	Prosperity	40.00	.....	.....	Viking	40.00	.....
.....	Lodestar	70.00	.....	.....	Quaker Maid	40.00	.....	.....	Wh. Anemone	40.00	.....
.....	L. I. Beauty	40.00	.....	.....	Queen of Pinks	40.00	.....	.....	W.H. Buckingham	40.00	.....
.....	Major Bowes	40.00	.....	.....	Red Daisy	40.00	.....	.....	Wh. Doty	40.00	.....
.....	Margaret Moeller	90.00	.....	.....	Red Izola	40.00	.....	.....	Wh. Freida	40.00	.....
.....	Marie Depetris	40.00	.....	.....	Red Melba	40.00	.....	.....	Wh. Frick	40.00	.....
.....	Marketeer	40.00	.....	.....	Red Princeton	40.00	.....	.....	Wh. Izola	40.00	.....
.....	Mary L. Hall	40.00	.....	.....	Red Rolinda	40.00	.....	.....	Wh. Jewell	40.00	.....
.....	Masterpiece	40.00	.....	.....	Red Rust	90.00	.....	.....	Wh. Mensa	40.00	.....
.....	Matchless	90.00	.....	.....	Red Velvet	70.00	.....	.....	Wh. Mistletoe	40.00	.....
.....	Mefo.	40.00	.....	.....	Revelation	50.00	.....	.....	Wh. Norma	40.00	.....
.....	Meteore	70.00	.....	.....	Rev. Bushnell	40.00	.....	.....	Wh. Supreme	40.00	.....
.....	Minong	40.00	.....	.....	Richard Mandell	40.00	.....	.....	Wh. Yuletide	40.00	.....
.....	Minuet	70.00	.....	.....	Riviera	50.00	.....	.....	Whittier	40.00	.....
.....	Monument	40.00	.....	.....	Robin Hood	40.00	.....	.....	Wm. Turner	40.00	.....
.....	Morning Glow	90.00	.....	.....	Rodell Imp.	40.00	.....	.....	Yel. Ambassador	40.00	.....
.....	Morning Star	90.00	.....	.....	Roman Bronze	40.00	.....	.....	Yel. Arcadia	40.00	.....
.....	Mrs. Bulkeley	40.00	.....	.....	Rosalind	40.00	.....	.....	Yel. Beauty	40.00	.....
.....	Mrs. Du Pont	50.00	.....	.....	Royal Crimson	40.00	.....	.....	Yel. Bushnell	40.00	.....
.....	Mrs. Kidder	40.00	.....	.....	Royal Queen	40.00	.....	.....	Yel. Cameo	90.00	.....
.....	Mrs. Roy	40.00	.....	.....	Ruby Pompon	70.00	.....	.....	Yel. Cordova	40.00	.....
.....	Nancy Copeland	40.00	.....	.....	Rusticon	90.00	.....	.....	Yel. Daisy	40.00	.....
.....	Natoma	40.00	.....	.....	Sarong	40.00	.....	.....	Yel. Dot	40.00	.....
.....	Navaho	50.00	.....	.....	Seafoam	50.00	.....	.....	Yel. Fellow	40.00	.....
.....	Nevada	70.00	.....	.....	Sea Gull	40.00	.....	.....	Yel. Freida	50.00	.....
.....	New York	40.00	.....	.....	Shasta	40.00	.....	.....	Yel. Garza	40.00	.....
.....	Norma	40.00	.....	.....	Silver Ball	40.00	.....	.....	Yel. Hammer	40.00	.....
.....	North Star	90.00	.....	.....	Silver Moon	40.00	.....	.....	Yel. Irene	40.00	.....
.....	Nuggets	40.00	.....	.....	Silver Sheen	40.00	.....	.....	Yel. Mefo	40.00	.....
.....	Oak Leaf	40.00	.....	.....	Sm. Early White	40.00	.....	.....	Yel. Monument	40.00	.....
.....	Oct. Bronze	40.00	.....	.....	Sm. Late White	40.00	.....	.....	Yel. Rolinda	40.00	.....
.....	Oct. Pink	40.00	.....	.....	Snow	40.00	.....	.....	Yel. Sea Gull	40.00	.....
.....	Oct. Rose	40.00	.....	.....	Snow White	40.00	.....	.....	Yel. Snow	40.00	.....
.....	Omega	90.00	.....	.....	Sunglow	40.00	.....	.....	Yel. Supreme	40.00	.....
.....	Orchid Beauty	40.00	.....	.....	Sun Gold	40.00	.....	.....	Yel. Turner	40.00	.....
.....	Orchid Queen	40.00	.....	.....	Sunkist	90.00	.....	.....	Yolanda	40.00	.....
.....	Pearl	40.00	.....	.....	Sunnyside	50.00	.....	.....	Yukon	40.00	.....
.....	Penrod	40.00	Sunray	40.00			

Price of Unrooted Cuttings \$12.50 less than above listed.

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Apricot Queen is an excellent variety for shading.

This is your **'47 'MUM BOOK**

Last season Mums probably averaged a higher profit point than in any year of their history, and the outlook for the coming season is strong. We believe this is a reflection of greatly improved forms and durability in newer varieties, and the fact that well equipped specialists can do a better job at less cost than most small or large growers. But hasn't their seasonal nature a bearing on their annual fall welcome? If so, do we want them hanging around all the time? This question will naturally settle itself on its merits. Our business in Mum cuttings increased fully 50% the last few seasons, mostly rooted; and we could have sold many more had labor conditions permitted. There's a reason for this. Due to increasing demand, this business occasioned some disappointments the past season that we regret. We can definitely say for the coming year that our facilities have been enlarged and that we will again do our utmost to meet this ever growing need for good Mum cuttings.

Granite State—the perfect white for pots.

Greg Ball
I N C.
WEST CHICAGO
ILLINOIS

